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(54) **SYSTEM AND METHOD FOR COLLECTING FINANCIAL TRANSACTION DATA**

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(73) Assignee: **Nokia Corporation**, Espoo (FI)

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(58) **Field of Search** 235/379, 380, 235/383, 462.46, 472.02; 705/39, 40, 41, 44; 380/24

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(57) **ABSTRACT**

The present invention is a system and method for collecting transaction data. A system for collecting transaction data in accordance with the invention includes at least one transaction provider **(12)** which provides at least an electronic receipt of financial transactions offered by each transaction provider; at least one user device **(14)**, in communication with each transaction provider, which provides to each transaction provider a selection by a user of the user device of an offered financial transaction and in response to receipt of an acceptance of the financial transaction recorded in the received electronic receipt; and at least one user information system **(18)**, coupled to at least one of the at least one transaction provider or the at least one user device, which stores at least electronic receipts which are received from the at least one user device or the at least one transaction provider which are verified by the user information system to have been accepted by the user of the user device. At least one intermediate service provider **(20)** may be coupled to the at least one transaction provider processes information relating to the accepted financial transactions transmitted to the at least one intermediate service provider to produce processed information pertaining to the accepted financial transactions.

79 Claims, 9 Drawing Sheets

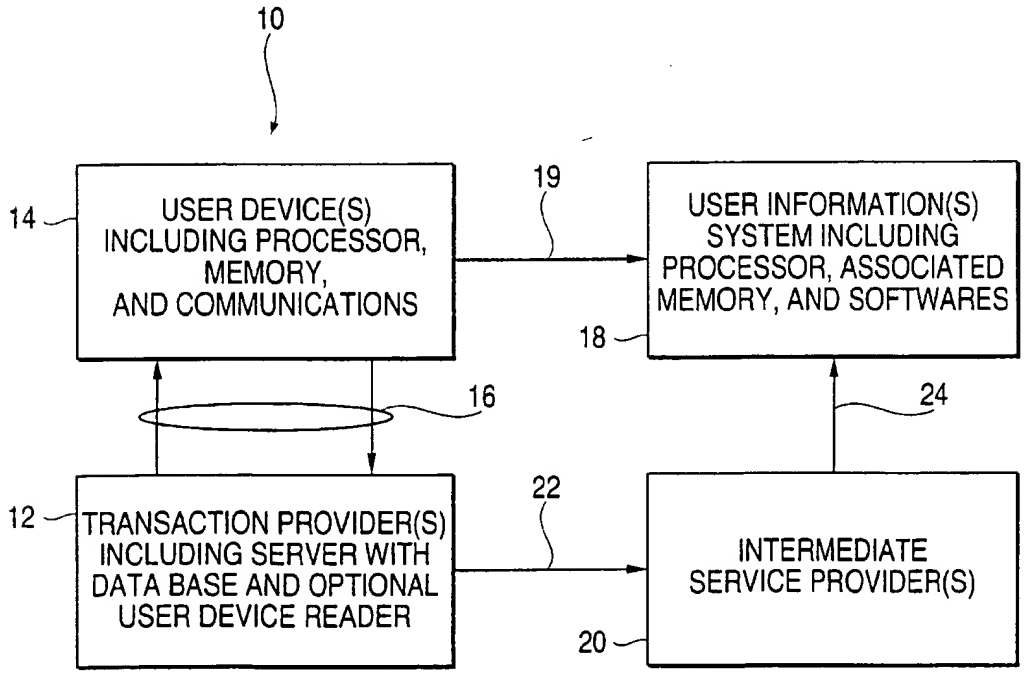

FIG. 1

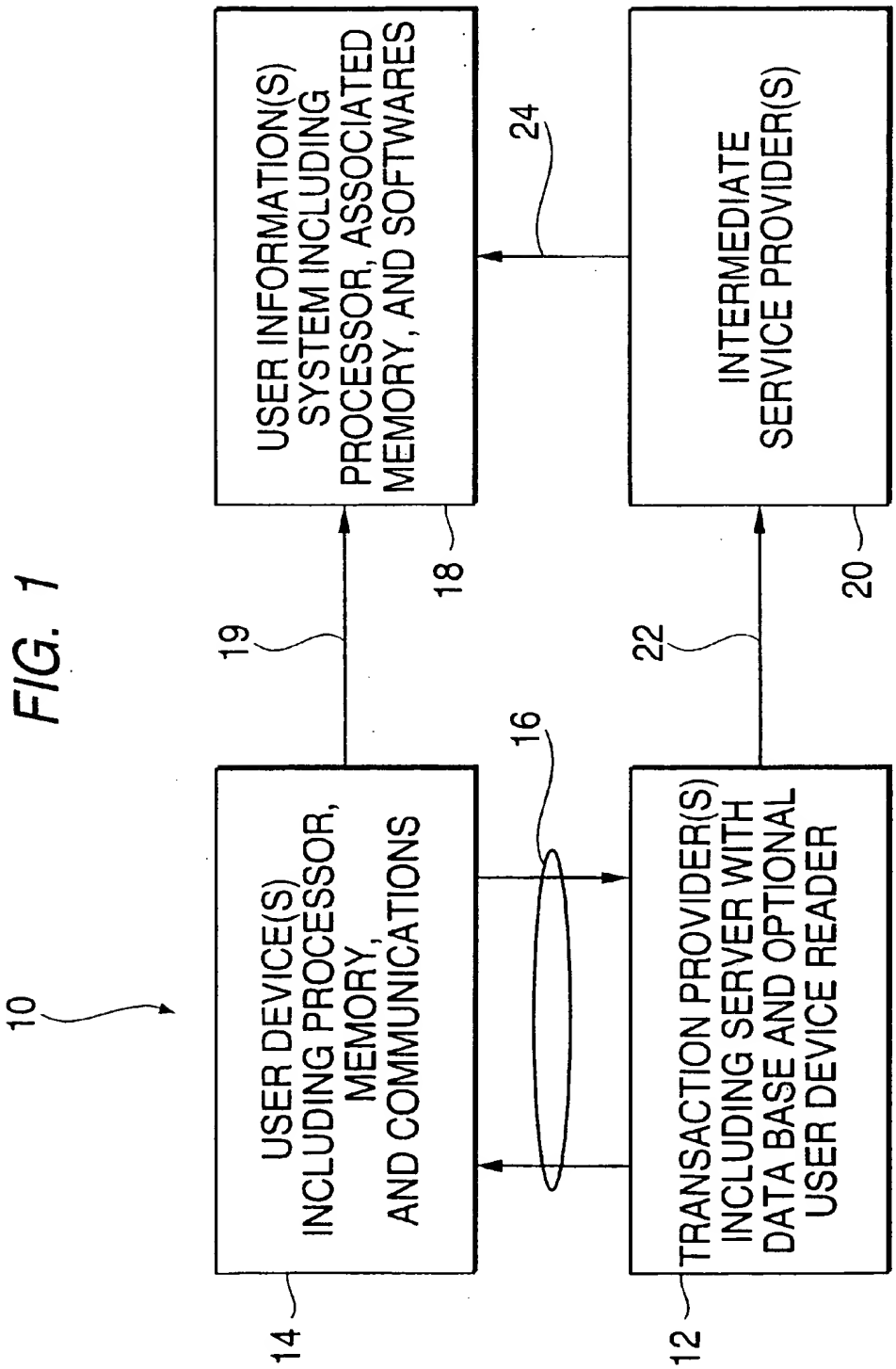
10
USER DEVICE(S) INCLUDING PROCESSOR, MEMORY, AND COMMUNICATIONS
14
TRANSACTION PROVIDER(S) INCLUDING SERVER WITH DATA BASE AND OPTIONAL USER DEVICE READER
12
16
19
USER INFORMATION(S) SYSTEM INCLUDING PROCESSOR, ASSOCIATED MEMORY, AND SOFTWARES
18
22
INTERMEDIATE SERVICE PROVIDER(S)
20
24

FIG. 2

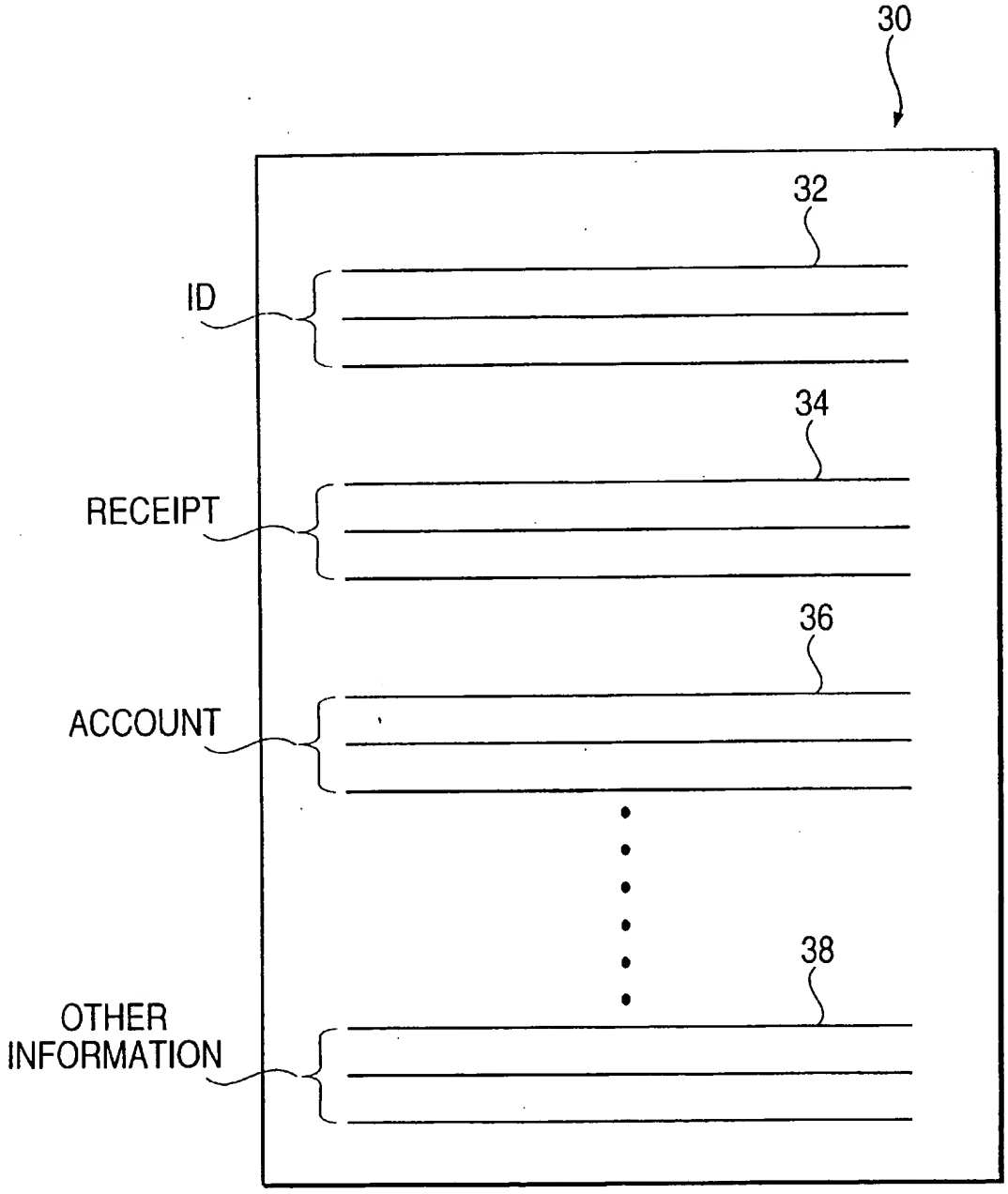

FIG. 3A

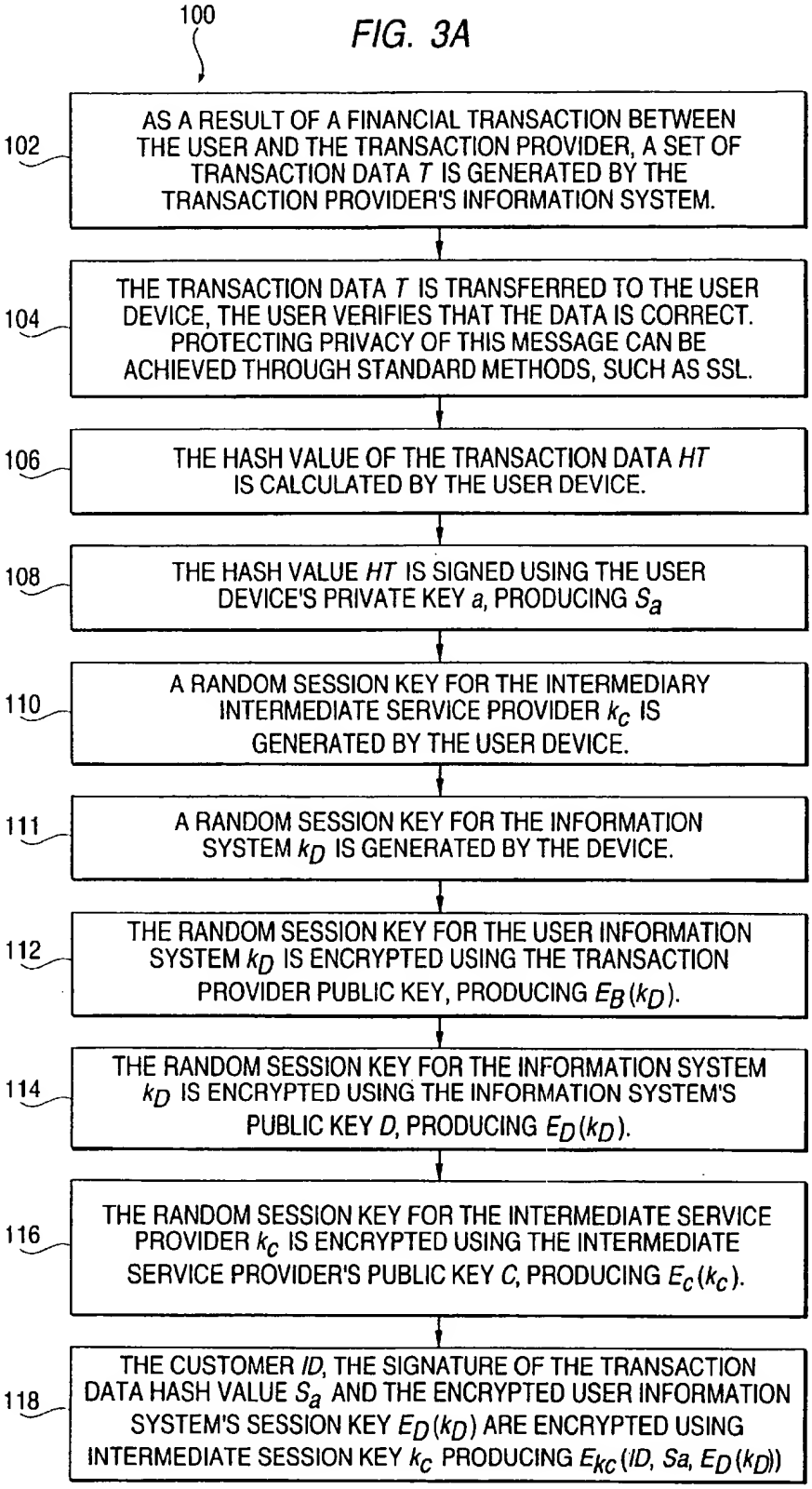
100
102
AS A RESULT OF A FINANCIAL TRANSACTION BETWEEN THE USER AND THE TRANSACTION PROVIDER, A SET OF TRANSACTION DATA T IS GENERATED BY THE TRANSACTION PROVIDER'S INFORMATION SYSTEM.
104
THE TRANSACTION DATA T IS TRANSFERRED TO THE USER DEVICE, THE USER VERIFIES THAT THE DATA IS CORRECT. PROTECTING PRIVACY OF THIS MESSAGE CAN BE ACHIEVED THROUGH STANDARD METHODS, SUCH AS SSL.
106
THE HASH VALUE OF THE TRANSACTION DATA HT IS CALCULATED BY THE USER DEVICE.
108
THE HASH VALUE HT IS SIGNED USING THE USER DEVICE'S PRIVATE KEY a, PRODUCING S_a
110
A RANDOM SESSION KEY FOR THE INTERMEDIARY INTERMEDIATE SERVICE PROVIDER k_C IS GENERATED BY THE USER DEVICE.
111
A RANDOM SESSION KEY FOR THE INFORMATION SYSTEM k_D IS GENERATED BY THE DEVICE.
112
THE RANDOM SESSION KEY FOR THE USER INFORMATION SYSTEM k_D IS ENCRYPTED USING THE TRANSACTION PROVIDER PUBLIC KEY, PRODUCING $E_B(k_D)$.
114
THE RANDOM SESSION KEY FOR THE INFORMATION SYSTEM k_D IS ENCRYPTED USING THE INFORMATION SYSTEM'S PUBLIC KEY D, PRODUCING $E_D(k_D)$.
116
THE RANDOM SESSION KEY FOR THE INTERMEDIATE SERVICE PROVIDER k_C IS ENCRYPTED USING THE INTERMEDIATE SERVICE PROVIDER'S PUBLIC KEY C, PRODUCING $E_C(k_C)$.
118
THE CUSTOMER ID, THE SIGNATURE OF THE TRANSACTION DATA HASH VALUE S_a AND THE ENCRYPTED USER INFORMATION SYSTEM'S SESSION KEY $E_D(k_D)$ ARE ENCRYPTED USING INTERMEDIATE SESSION KEY k_C PRODUCING $E_{kc}(ID, Sa, E_D(k_D))$

FIG. 3B

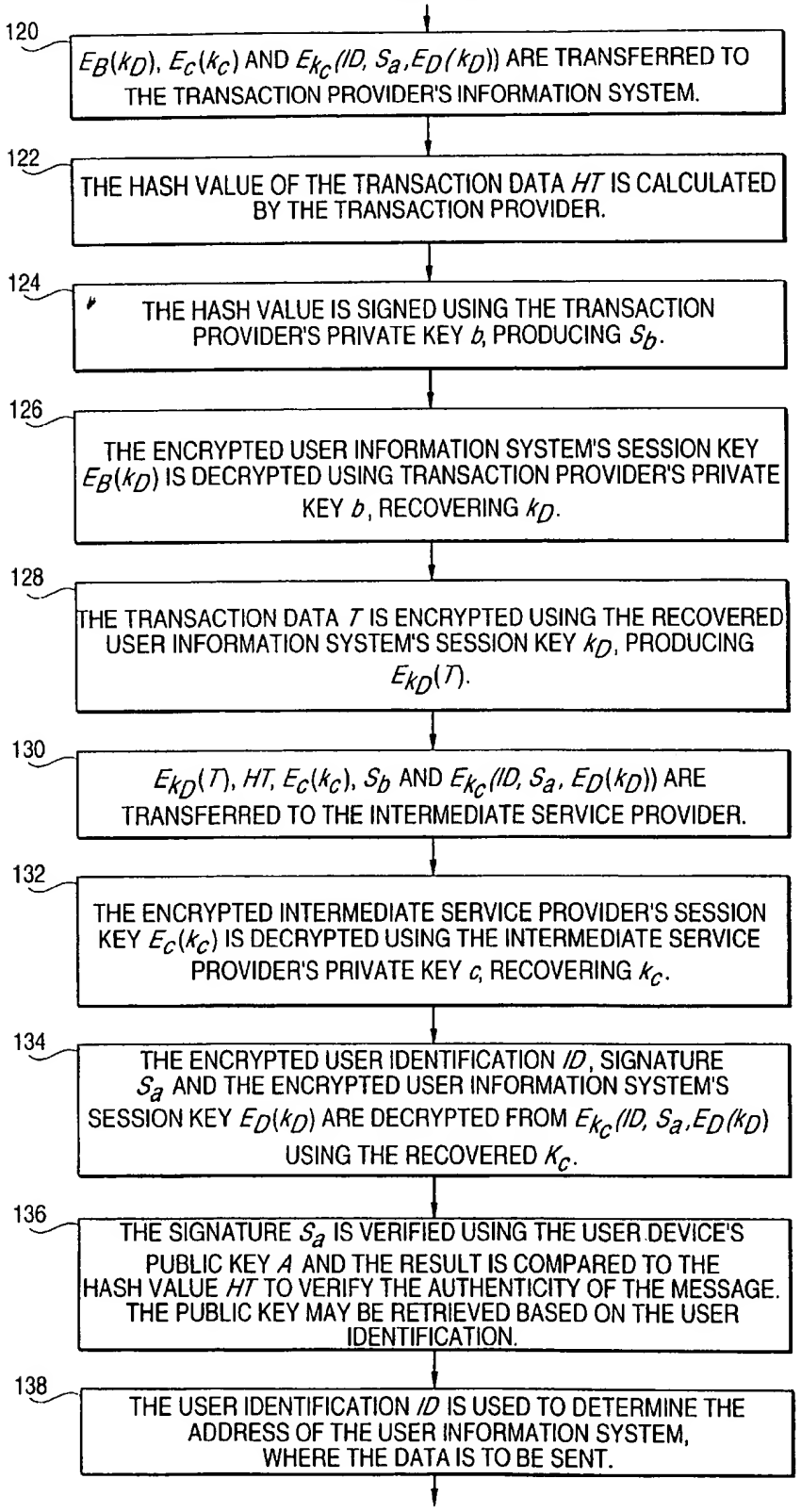
120
$E_B(k_D)$, $E_c(k_c)$ AND $E_{k_c}(ID, S_a, E_D(k_D))$ ARE TRANSFERRED TO THE TRANSACTION PROVIDER'S INFORMATION SYSTEM.
122
THE HASH VALUE OF THE TRANSACTION DATA *HT* IS CALCULATED BY THE TRANSACTION PROVIDER.
124
THE HASH VALUE IS SIGNED USING THE TRANSACTION PROVIDER'S PRIVATE KEY *b*, PRODUCING S_b.
126
THE ENCRYPTED USER INFORMATION SYSTEM'S SESSION KEY $E_B(k_D)$ IS DECRYPTED USING TRANSACTION PROVIDER'S PRIVATE KEY *b*, RECOVERING k_D.
128
THE TRANSACTION DATA *T* IS ENCRYPTED USING THE RECOVERED USER INFORMATION SYSTEM'S SESSION KEY k_D, PRODUCING $E_{k_D}(T)$.
130
$E_{k_D}(T)$, *HT*, $E_c(k_c)$, S_b AND $E_{k_c}(ID, S_a, E_D(k_D))$ ARE TRANSFERRED TO THE INTERMEDIATE SERVICE PROVIDER.
132
THE ENCRYPTED INTERMEDIATE SERVICE PROVIDER'S SESSION KEY $E_c(k_c)$ IS DECRYPTED USING THE INTERMEDIATE SERVICE PROVIDER'S PRIVATE KEY *c*, RECOVERING k_c.
134
THE ENCRYPTED USER IDENTIFICATION *ID*, SIGNATURE S_a AND THE ENCRYPTED USER INFORMATION SYSTEM'S SESSION KEY $E_D(k_D)$ ARE DECRYPTED FROM $E_{k_c}(ID, S_a, E_D(k_D)$ USING THE RECOVERED K_c.
136
THE SIGNATURE S_a IS VERIFIED USING THE USER DEVICE'S PUBLIC KEY *A* AND THE RESULT IS COMPARED TO THE HASH VALUE *HT* TO VERIFY THE AUTHENTICITY OF THE MESSAGE. THE PUBLIC KEY MAY BE RETRIEVED BASED ON THE USER IDENTIFICATION.
138
THE USER IDENTIFICATION *ID* IS USED TO DETERMINE THE ADDRESS OF THE USER INFORMATION SYSTEM, WHERE THE DATA IS TO BE SENT.

FIG. 3C

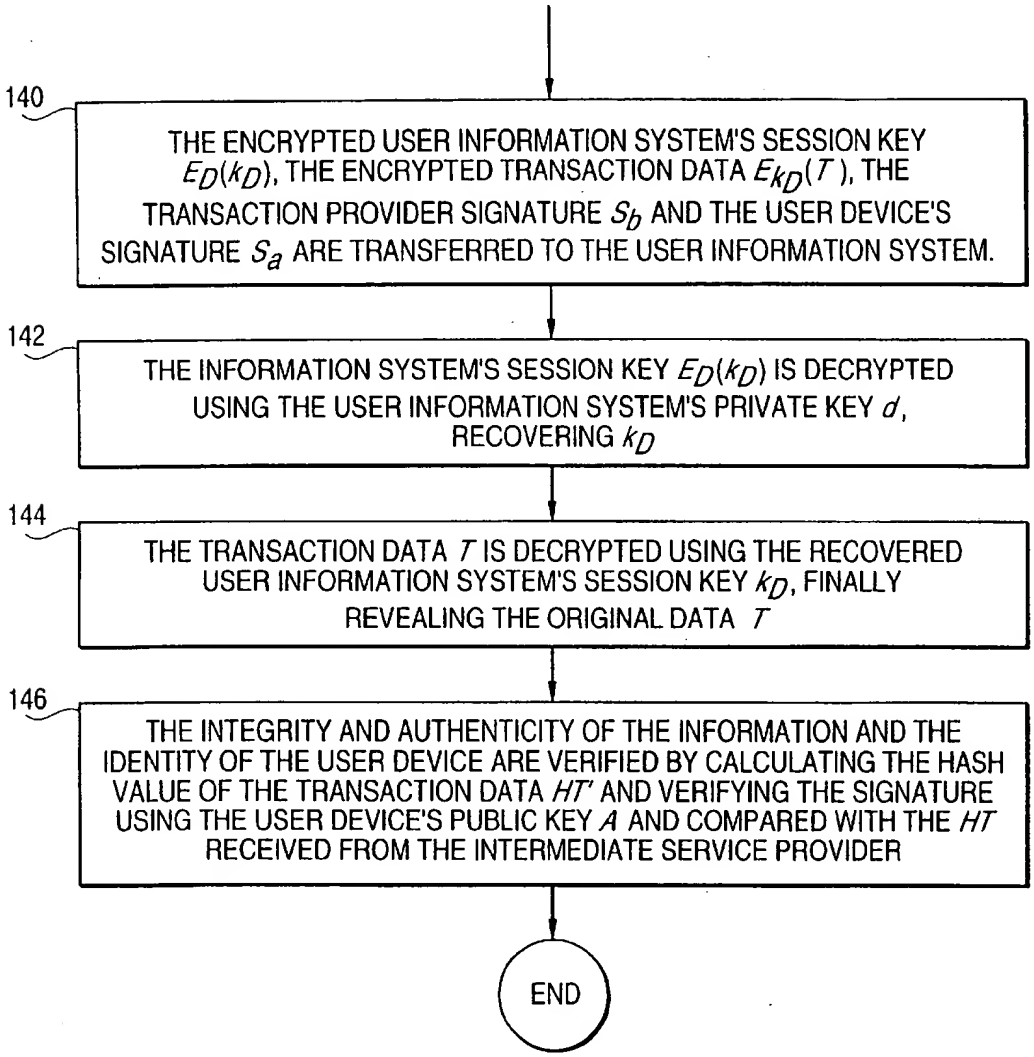
140
THE ENCRYPTED USER INFORMATION SYSTEM'S SESSION KEY $E_D(k_D)$, THE ENCRYPTED TRANSACTION DATA $E_{k_D}(T)$, THE TRANSACTION PROVIDER SIGNATURE S_b AND THE USER DEVICE'S SIGNATURE S_a ARE TRANSFERRED TO THE USER INFORMATION SYSTEM.
142
THE INFORMATION SYSTEM'S SESSION KEY $E_D(k_D)$ IS DECRYPTED USING THE USER INFORMATION SYSTEM'S PRIVATE KEY d, RECOVERING k_D
144
THE TRANSACTION DATA T IS DECRYPTED USING THE RECOVERED USER INFORMATION SYSTEM'S SESSION KEY k_D, FINALLY REVEALING THE ORIGINAL DATA T
146
THE INTEGRITY AND AUTHENTICITY OF THE INFORMATION AND THE IDENTITY OF THE USER DEVICE ARE VERIFIED BY CALCULATING THE HASH VALUE OF THE TRANSACTION DATA HT' AND VERIFYING THE SIGNATURE USING THE USER DEVICE'S PUBLIC KEY A AND COMPARED WITH THE HT RECEIVED FROM THE INTERMEDIATE SERVICE PROVIDER
END

FIG. 4A

USER DEVICE A
INPUT: T
PROCESSING: $HT = H(T)$, $S_a = S_a(HT)$, k_C, k_D, $E_B(k_D)$, $E_D(k_D)$, $E_{k_C}(ID, S_a, E_D(k_D))$,
OUTPUT: $E_B(k_D)$, $E_C(k_C)$, $E_{k_C}(ID, S_a, E_D(k_D))$

FIG. 4B

TRANSACTION PROVIDER B
INPUT: T, $E_B(k_D)$, $E_c(k_c)$, $E_{k_c}(ID, S_a, E_D(k_D))$
PROCESSING: $HT = H(T)$, $S_b = S_b(HT)$, $k_D = D_b(E_B(k_D))$, $E_{k_D}(T)$
OUTPUT: $E_{k_D}(T)$, HT, S_b, $E_c(k_c)$, $E_{k_c}(ID, S_a, E_D(K_D))$

FIG. 4C

INTERMEDIATE SERVICE PROVIDER C
INPUT: $E_{kD}(T)$, HT, S_b, $E_c(k_c)$, $E_{kc}(ID, S_a, E_D(k_D))$
PROCESSING: $k_c = D_c(E_c(k_c))$, $ID, S_a, E_D(k_D) = D_{kc}(E_{kc}(ID, S_a, E_D(k_D)))$ $HT' = V_A(S_a)$
OUTPUT: $E_D(k_D)$, $E_{kD}(T)$, S_a

FIG. 4D

USER INFORMATION SYSTEM D
INPUT: $E_D(k_D)$, $E_{kD}(T)$, S_a, S_b
PROCESSING: $k_D = D_d(E_D(k_D))$, $T = D_{kD}(E_{kD}(T))$, $HT = H(T)$, $HT' = V_A(S_a)$

SYSTEM AND METHOD FOR COLLECTING FINANCIAL TRANSACTION DATA

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to systems and methods for gathering financial transaction data.

2. Description of the Prior Art

Point of sale systems are in widespread use at which a purchaser of goods or services pays with cash or a smart, credit or debit card. Transactions involving cards focus upon obtaining authorization from the credit or debit financial institution from which the purchaser is extended credit or at which a debit account is maintained and do not provide the purchaser with a detailed analysis of purchases beyond the minimum amount of information to permit the identification of the financial transaction. The information in billing statements regarding the purchased goods or services is not the equivalent of the receipt obtained at the point of sale by the purchaser. Furthermore, the monthly statement provided from the credit or debit organization contains insufficient information to be a useful tool for business and personal accounting and financial management.

The large body of information which is contained in the paperwork or otherwise associated with financial transactions generated by a point of sale or a business providing financial transactions on the internet or otherwise is not readily available electronically to the consumer of financial services. Paper receipts are voluminous to maintain and the collection of meaningful financial information based on receipts is a time intensive task for individuals and companies.

U.S. Pat. No. 4,277,837 discloses a personal portable terminal for financial transactions which facilitates electronic commerce. A personal data and storage transfer card is used in association with a personal portable terminal for continually monitoring and recording individual financial records. Verification of transactions between the user of the personal portable terminal and the party providing the transaction is facilitated. Storage is provided in the personal portable terminal which may be read out at a later date by a bank for auditing fund transfer and statement printing purposes. However, the personal portable terminal does not operate in association with a user information system which stores verified information including electronic receipts.

SUMMARY OF THE INVENTION

The present invention is a system and method for collecting data pertaining to financial transactions provided by a transaction provider which may be any form of commercial establishment, such as a point of sale for the purchase of goods or services or an entity providing electronic commerce, such as the purchase of goods or services over an IP network. The information which is collected with the present invention is utilized for business and personal accounting and financial management. The collected information includes at least an electronic receipt of the financial transaction but may also contain additional information which is stored by a user information system for facilitating business and personal accounting and financial management functions to the user. The user device communicates with the transaction provider selections of financial transactions made by the user of the user device which are offered by the user provider and information permitting the transaction provider to verify that the electronic receipt has been accepted by the user of the user device. The user information system communicates with at least one of the transaction provider or the user device and stores at least the electronic receipt which is received from the user device or the transaction provider which is verified by the user information system to have been accepted by the user of the user device. As a result of storage of at least the verified electronic receipt, the user information system becomes either a personal or business database which stores detailed information about the contents of the transaction and the individual items included in the transaction such as that which is typically recorded on a paper receipt.

The invention provides diverse benefits to users of the user device, transaction providers and intermediate service providers for developing business associated with the financial transaction. Examples are: customer buying information management, product buying information management, customer profile management, loyalty management, user information marketing, personal financial management, professional financial management and price tracking as described below.

The user information system eliminates the laborious process of collecting financial information from analysis of paper receipts. The information, including the electronic receipt which is stored by the user information system after verification, is a complete description of the financial transaction and is unlike the limited summary of information provided with a smart, credit or debit card billing statement. Instead of what amounts to a summary of each purchase which is included in a monthly statement of a smart, credit or debit card which is centered upon only the total amount of the purchase, the present invention collects substantial information about the details of each financial transaction, including an electronic receipt, any involved intermediate service provider, such as a bank or other financial institution from which smart, credit or debit services were obtained, including the identification of any accounts used for the financial transactions, the location from which the goods or services was purchased and the individual who entered into a financial transaction in a situation in which the user information system is providing storage of organizational information.

The information stored by the user information system records communications between a user of the user device and the transaction provider. As part of a financial transaction agreed upon between a user of the user device and the transaction provider, information which is normally recorded on a paper receipt is transmitted from an information storage system associated with the transaction provider to the information system associated with the user device. The communication is typified by communications between a cash register at a point of sale and the user device which the user is carrying or electronic commerce involving transaction providers which use IP networks to offer their financial transactions. The user device may use diverse types of softwares, including without limitation a personal financial assistance program or a company's accounting or operation management system. The information relating to the financial transaction including the electronic receipt may contain information facilitating automatic processing of the collected information, such as universal product codes (bar codes) representative of the financial transactions. Additionally, a user of the user device may annotate the information which is collected pertaining to all financial transactions with additional comments or classifications either at the time of entry into the financial transaction or at a later time. The storing of the information by the user

information system including the electronic receipt may be in any form which facilitates personal or business accounting requirements.

The communications between the user device and the user information system may be implemented in many ways. For example, communications between the transaction provider, such as a cash register located at a retail point of sale, and the user device may be based upon low power wireless communications such as, for example, the proposed Bluetooth standard or a physical interface, such as when the user device is a card, such as a smartcard, which is inserted into a smart card reader of the transaction provider to transmit data from the card to the transaction provider regarding selections or verifications of the financial transaction, e.g. an electronic signature. The user device may contain memory and communication capabilities which facilitate the storage by the user device of at least the electronic receipt which is stored by the user information system after verification. Alternatively, the user device may communicate directly with the user information system after a verification of the financial transaction between the user and the transaction provider via communication mediums such as cellular communications using short message service (SMS). The user device may be a mobile terminal including a telephone interface with a personal digital assistant (PDA). Alternatively, the user device may contain communication capability with a IP network, such as the internet, to enter into financial transactions with the transaction provider.

While in a preferred embodiment the user device contains communication capabilities and substantial memory, the present invention is not limited to the user device having either communication capability or memory for storing electronic receipts and other information. As an alternative, the user device may be a device such as, but not limited to, a smart card which provides only a digital signature of the user to the transaction provider, which enables the transaction provider to forward at least the user authorized electronic receipt and other information to the user information system optionally through an intermediate service provider. Forwarding of at least the electronic receipt to the user information system may be directly or through the aforementioned intermediate service provider, which processes information relating to the accepted financial transaction transmitted by the transaction provider to the intermediate service provider to produce processed information pertaining to the accepted financial transactions. The intermediate service provider may be, without limitation, a financial institution, such as a bank or a smart, credit or debit card clearinghouse, which processes the information relating to the selected financial transaction against an account which the user has with the intermediate service provider.

The generation of an electronic signature by the user device has two purposes. First, the signature prevents the transaction provider or another party from falsifying the electronic receipt and other information which has been accepted by the user of the user device and furthermore, provides the transaction provider, such as a merchant with authorization, to transmit at least the electronic purchase information to the intermediate service provider, such as the user's financial institution where the amount of the transaction is posted against the user's account. The user information system provides verification of the information received from the transaction provider and may accept only information that has been properly electronically signed. Utilization of the transaction provider's information system, instead of relying upon the user's device for transmitting at least the electronic receipt, provides a substantial benefit in simplifying the user's device. Simplification of the user's device eliminates a requirement for complex communication capacity and obtains the benefit of the existing communication infrastructure associated with at least the transaction provider and optionally the intermediate service provider to facilitate communications of at least the electronic receipt to the user's information system. The association of the electronic signature with the electronic receipt permits the transaction provider to verify acceptance of the financial transaction recorded in the electronic receipt. Additionally, the storage of at least the electronic receipt, after verification of acceptance by the user information system, permits central processing immediately by the user information system. A memory of the user device, including a memory in a smartcard, provides a log of financial transactions which can be compared at a later time with the information stored in the user information system to verify that the transaction information has actually been received.

In view of the complete nature of the information contained in an electronic receipt associated with ;a financial transaction and other optional information which is gathered by the user device, suitable forms of encryption may be utilized to protect the identity of the user device and any sensitive information which is being transmitted between the user device, user information system, optional intermediate service provider and the user information system. The user device may encrypt the identity of the user from at least the transaction provider and may also encrypt the contents of the electronic receipt from being accessed by the intermediate service provider. The intermediate service provider, which may be a financial institution, may also protect the purchaser's identify when the identity of the user is encrypted with transmissions between the user device and the transaction provider.

The processing and communication capabilities of the optional intermediate service provider may be utilized in place of providing substantial processing and communication capability in the user device. When the user device has limited computing and communication capability, such limited capability may be used for the review of the electronic receipt from the transaction provider and signing thereof to permit the transaction provider to verify the transaction has been accepted by the user and then utilize either the transaction provider's or the optional intermediate service provider's additional processing and communication capability to further process or transmit at least the electronic receipt in a protected (encrypted) format to the user information system where after verification it is stored.

A system for collecting transaction data in accordance with the invention includes a transaction provider which provides at least an electronic receipt of financial transactions offered by the transaction provider; a user device, in communication with the transaction provider, which provides to the transaction provider a selection by a user of the user device of a financial transaction offered by the transaction provider and in response to receipt of an electronic receipt an acceptance of the financial transaction recorded in the electronic receipt; and a user information system, coupled to at least one of the transaction provider or the user device, which stores at least electronic receipts which are received from the user device or the transaction provider which are verified by the user information system to have been accepted by the user of the user device. The user device may be a mobile terminal in wireless communication with at least the transaction provider, a personal digital assistant in wireless communication with at least the transaction provider, or a smart card which is read by a smart card reader

at the transaction provider to obtain at least the selection by the user of the financial transaction and information permitting the transaction provider to verify that the electronic receipt is accepted by the user of the user device. The user device may add to the electronic receipt additional information which is used by the user information system in processing at least the electronic receipts stored by the user information system information. The information provided by the user device to permit the transaction provider to verify that the electronic receipt is accepted may comprise an electronic signature. The user information system also may verify at least any received electronic receipts with the electronic signature. The user device may add to the electronic receipt comments from the user providing additional information about the financial transaction beyond information contained in an electronic receipt.

A system for collecting transaction data in accordance with the invention also includes a transaction provider which provides at least an electronic receipt of financial transactions obtained from the transaction provider; a user device, in communication with the transaction provider, which provides to the transaction provider a selection by a user of the user device of a financial transaction offered by the transaction provider and in response to receipt of an electronic receipt, an acceptance of the transaction recorded in the received electronic receipt; an intermediate service provider, coupled to the transaction provider, which processes information relating to the accepted financial transaction transmitted by the transaction provider to the intermediate service provider to produce processed information pertaining to the accepted financial transaction; and a user information system, coupled to the intermediate service provider, which stores at least electronic receipts which are received from the intermediate service provider which are verified by the user information system to have been accepted by the user of the user device. The intermediate service provider may be a financial institution which processes the information relating to the accepted financial transaction against an account which the user has with the intermediate service provider. The user device may add to the electronic receipt additional information which is used by the user information system in processing at least the electronic receipts stored by the user information system. The information provided by the user device to permit the transaction provider to verify that the electronic receipt is accepted may comprise an electronic signature. The user information system may also verify at least any received electronic receipts with the electronic signature. The user device may encrypt an identity of the user from at least the transaction provider. The user device may also encrypt the contents of the electronic receipt from being accessed by the intermediate service provider. The financial institution may validate the information relating to the accepted financial transaction is associated with the account of the user.

A process for collecting transaction data in accordance with the invention includes providing from a transaction provider to a user device at least an electronic receipt of a financial transaction obtained by the user from the transaction provider; providing a verification from the user device to the transaction provider that at least the electronic receipt is accepted by a user of the user device; transmitting from either the transaction provider or the user device to a user information system at least the electronic receipt; and storing at least the electronic receipt with the user information system when at least the electronic receipt is verified to have been accepted by the user of the user device. The user device may add to the electronic receipt additional information which is used by the user information system in processing at least the electronic receipt stored by the user information system. Information may be provided by the user device to the transaction provider to permit the transaction provider to verify that the electronic receipt is accepted by the user of the user device. The information system used to verify the acceptance of received electronic receipts by the user of the user device may be an electronic signature. The transaction provider may also provide to the user device electronic data identifying financial transactions which are offered by the transaction provider.

A process for collecting transaction data in accordance with the invention includes providing from a transaction provider to a user device at least an electronic receipt of a financial transaction obtained by the user from the transaction provider; providing a verification from the user device to the transaction provider that at least the electronic receipt is accepted by a user of the user device; transmitting information relating to the accepted financial transaction from the transaction provider to an intermediate service provider; processing the information relating to the accepted financial transaction by the intermediate service provider to produce processed information pertaining to the accepted financial transaction; and receiving at least the electronic receipt with a user information system from the intermediate service provider and storing at least the electronic receipt when at least the electronic receipt is verified by the user information system to have been accepted by the user of the user device. The intermediate service provider may be a financial institution which processes the information relating to the accepted financial transaction against an account which the user has with the intermediate service provider. The user device may add to the electronic receipt additional information which is used by the user information system in processing at least the electronic receipt stored by the user information system. Information is provided by the user device to the transaction provider to permit the transaction provider to verify that the electronic receipt is accepted. The information may comprise an electronic signature. The user device may encrypt an identity of the user from at least the transaction provider. The financial institution may validate the information relating to the accepted financial transaction is associated with the account of the user. The financial institution may provide information to the user information system that the financial transaction has occurred between the user and transaction provider.

The transaction provider and the intermediate service provider perform the following functions: the intermediate service provider may provide the transaction provider with an analysis of financial transactions accepted by the user of the user device which may be a statistical analysis; the transaction provider may provide an analysis of sales of particular types of financial transactions to manufacturers of products which are involved with the sale which may involve at least one of location and time that the sales were made; the transaction provider may create profiles of a user of the user device based on types of purchases which are made; the transaction provider may provide a tabulation of purchases made by users of the user device which may be provided by the transaction provider to a manufacturer of products purchased with each financial transaction; the intermediate service provider may provide a history of a user financial transaction to another for a benefit of the user; the intermediate service provider may provide a user of the user device with an analysis of the users history of financial transactions which may identify types of financial transactions which the user has accepted and the analysis group

products which are involved in financial transactions according to categories; the analysis may compare the user's history of financial transactions with a history of financial transactions of others; and the user device may be used by members of an organization and information of multiple users is combined in the user information system.

A system for collecting transaction data in accordance with the invention includes a plurality of transaction providers, each transaction provider providing at least an electronic receipt of financial transactions obtained therefrom; a plurality of user devices, in communication with the plurality of transaction providers, which provide to at least one transaction provider a selection by a user of each user device of a financial transaction offered each transaction provider and in response to receipt of an electronic receipt an acceptance of the transaction recorded in the received electronic receipt; at least one intermediate service provider, coupled to each transaction provider, which processes information relating to the accepted financial transaction transmitted by each transaction provider to the at least one intermediate service provider to produce processed information pertaining to the accepted financial transaction; and at least one user information system, coupled to at least one intermediate service provider, each user information system storing at least electronic receipts which are received from each intermediate service provider which are verified by the at least one user information system to have been accepted by the user of each user device. The intermediate service provider may provide to at least one user of the user devices information on price differences at different locations at which the plurality of transaction providers are located.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** illustrates a block diagram of an embodiment of a system for collecting transaction data in accordance with the present invention.

FIG. **2** illustrates an example format of at least the electronic receipt which is stored by a user information system in accordance with the present invention.

FIGS. **3A–3C** illustrate a flowchart of one embodiment of a process for collecting transaction data in accordance with the present invention.

FIGS. **4A–4D** illustrate the inputs, processes and the outputs of the process of FIGS. **3A–3C**.

Like reference numerals identify like parts throughout the drawings.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

FIG. **1** illustrates a block diagram of a system **10** for collecting transaction data in accordance with the invention. Financial transactions and financial data should be understood to describe without limitation any transaction which involves exchange of monetary or other value between the user(s) of at least one user device **14** and at least one transaction provider **12**. The system **10** is comprised of at least one transaction provider **12**, at least one user device **14** which communicates with the transaction provider **12** over either a physical connection, wireline or a wireless communication link **16**, at least one user information system **18**, which communicates with the user device **14** over a communication link **19**, which may be wireless or wireline or through at least one intermediate service provider **20** which communicates directly with the transaction provider **12** over a communication link **22**, which may be wireless or wireline, and directly by communication link **24** with the user information system which may be either a wireless or a wireline link. It should be understood that only a single translation provider **12**, user device **14**, user information system **18** and intermediate service provider **20**, have been illustrated for the purpose of simplifying illustration of a system in accordance with the present invention but, in practice, the invention is practiced with plural transaction providers, user devices, user information systems and intermediate service providers and the necessary illustrated communication links **16**, **20**, **22** and **24**.

The transaction provider **12** may be, without limitation, any entity which provides financial transactions, such as, but not limited to, a retail organization, any point of sale (POS) entity or an entity providing electronic commerce, such as entities operating on IP networks. The transaction provider **12** may include a server with a database which manages the generation of electronic receipts by the transaction provider in response to selection of financial transactions offered by the transaction provider **12** by the user of the user device **14** and further verification that the electronic receipt transmitted by the transaction provider **12** to the user device **14** has been accepted by the user device to be correct. The verification of acceptance of at least the electronic receipt by the transaction provider **12** may be an electronic signature generated by any known technique or mechanism and provides the legal basis for the transaction provider to signal the intermediate service provider **20** that the financial transaction has been accepted by the user of the user device. Without limitation, the intermediate service provider typically is a financial institution offering smart, credit or debit services to the user of the user device **14** which the user has authorized to be processed by the financial transaction against the user's account. The transaction provider **12** in a retail or other point of sale configuration typically contains a register for storing cash and smart, credit or debit card receipts and processing and communication capability for management of inventory, etc. and communication capability directly (not illustrated) with the user information system **18** or with the intermediate service provider **20**. The transaction provider **12** may transmit substantial information over the communications link **16** to the user device **14** which advertises or otherwise communicates information about a wide range of financial transactions which are offered by the transaction provider in order to induce the user of the user device **14** to enter into financial transactions with the transaction provider **12**. The user device **14**, may be diverse in nature and may be a smart card, a mobile terminal including a wireless, telephone or short range wireless communication link, such as the proposed Bluetooth specification, a PDA, etc. The user device **14** typically contains a processor and associated memory and the aforementioned communication capability providing communications over links **16** and **20**.

The transaction provider **12** provides at least an electronic receipt of financial transactions offered, by the transaction provider to the user of the user device **14** but typically also provides electronic data transmissions identifying financial transactions which are offered by the transaction provider which is a mechanism to induce purchase by the user of the user device **14** of financial transactions offered by the transaction provider **12**. The user device **14** communicates over communication link **16** with the transaction provider **12** a selection by the user of the user device of a financial transaction offered by the transaction provider. Additionally, information is provided by the user device **14** to the transaction provider **12**, after receipt by the user device of the electronic receipt, permitting the transaction provider to

verify that the electronic receipt is accepted by the user. This verification information may without limitation be an electronic signature or simply an acknowledgment that the information contained in an electronic receipt transmitted by the transaction provider **12** to the user device **14** is acknowledged by the user of the user device to be accepted as a binding transaction.

The user information system **18** includes a processor and associated memory which stores at least electronic receipts which are received from the user device via direct communications over communication link **19** or, alternatively, by communication from the user device **14** over communication link **16** to the transaction provider **12**, from the transaction provider **12** over communication link **22** to the intermediate service provider **20** and from the intermediate service provider **20** over communication link **24** to the user information system or directly from the transaction provider **22** such as when the intermediate service provider **20** is not present or is not operative. The user information system **18** includes softwares which process; at least the electronic receipt to permit verification as accepted by the user of the user device before storage in the memory. If the user information system **18** is an organization's system, such as a company, the processor may be in a server or part of a network of computers of the organization. The softwares may be diverse in nature and may include without limitation programs for accounting and financial management of the user of the user device **14** and decrypting of information as described below in FIGS. **3A–3C**. These softwares provide a basis for decision making and maintaining personal or company budgets to provide prudent financial management and furthermore, facilitate the collection of transaction information in electronic form in the same manner in which the information was created by the transaction provider **12** as accepted by the user of the user device **14**.

A preferred form of verification utilizes an electronic signature generated by the user of the user device **14**. The electronic signature, generated by any known technique, which is transmitted by the user device **14** to the transaction provider **12** in response to receipt of at least an electronic receipt from the transaction provider, permits the transaction provider to authorize the intermediate service provider **20** to post the financial transaction against the smart, credit or debit account of the user of the user device **14** maintained by the intermediate service provider **20** which may be a bank or other financial institution. In addition to the approval of the electronic receipt and the financial transaction, additional information may be associated with the financial transaction by the user of the user device which is used by the user information system **18** in processing at least the electronic receipt stored by the user information system memory. Such additional information may be comments or personal annotations provided by the user of the user device **14** or information to be used during a processing of at least the electronic receipt by the user information system including software, etc. The electronic signature which is added by the user of the user device **14** to the electronic receipt prevents the transaction provider or a third party from falsifying the information of the accepted electronic receipt end further provides a preferred basis for the user information system **18** to verify that information transmitted thereto is information accepted by the user of the user device which should be stored in the memory in the user information system.

In view of the sensitivity of the substantial quantity of information which may be generated by the transaction provider **12** in the electronic receipt and further personal information which the user of the user device **14** may wish to annotate or otherwise associate with the electronic receipt in confidential form which is safeguarded from being disclosed or available to unauthorized individuals, it is possible to conceal the user's identity from the transaction provider and details of the financial transaction other than those necessary to perform smart, credit or debiting services on behalf of the user of the user device **14** by the intermediate service provider **20**. This concealment may be accomplished by any known encrypted/decryption processes.

FIG. **2** illustrates an example of user information **30** which is stored in the memory of the user information system **18** including an electronic receipt **34**. It should be understood that the user information **30** is only exemplary of possible types of information which may be stored and the form of storage of information stored by the user information system **18**. The user information **30** includes identification information **32** of the user device **14** which may be of any diverse type, such as a social security number or other individual identification issued by countries of the user, company, etc., an electronic receipt **34**, account information **36**, and other information **38**. The identification information **32** is utilized in the process described below in conjunction with FIGS. **3A–3C** and FIGS. **4A–4D** at least to obtain the address of the user identification information system **18** to which information is transmitted by the intermediate service provider **20** but may have other functions. The electronic receipt **34** may contain a whole host of identifying information regarding the financial transaction, such as, but not limited to, the information which is provided on a paper receipt but also including additional information such as product attributes, quantity, manufacturers's identity, EAN codes, such as a UPC code, which may be stored in any agreed upon format. The electronic receipt **34** is information which in the prior art was not provided by the billing statements from intermediate service providers **20** to the user in a normal smart, credit or debit card statement provided on a monthly basis and is the information which is highly useful in the user's accounting and/or financial management functions and further, to the transaction provider **12**, the user of the user device **14** and the intermediate service provider **20** as a source of beneficial or saleable information as described below. The account information **36** is the customary information, such as a smart, credit or debit account number or other identification of services provided by the intermediate service provider **20**. Finally, the other information **38** is symbolic of diverse forms of information which the user of the user device **14** wishes to store in the memory of the user information system **18** or otherwise use during the processing of information received by the user information system prior to storage in the memory and may without limitation include comments provided by the user of the user device **14** which annotate the particular financial transaction represented by the user information **30** and any softwares used to support storage or processing of the user information. The other information **38** may also be the source of information sold by the transaction provider **12** and/or the intermediate service provider **20** to the third parties as described below. It should be understood that the user information system **18** may be a company financial information system implemented in a server, an individual's home PC or otherwise.

The transaction provider **12** and the intermediate service provider **20** have a number of attractive possibilities for developing a business around the financial transaction information generated between the transaction provider and the user device **14**. The categories of information are as follows:

1. CUSTOMER BUYING INFORMATION MANAGEMENT

Most importantly, if the customer identity is hidden by encryption or otherwise from the transaction provider **12**, the transaction provider has no way of identifying repeated purchases by the same customer. The intermediate service provider **20** may provide transaction providers **12** with statistical analysis of their customer's buying habits, or if allowed by the user, even the complete anonymous buying histories of single users. Additionally, if one transaction provider **12** serves multiple transaction provider locations of the same type, for example grocery stores, the transaction provider **12** may provide information on how the buying patterns of the customers of one store are different from buying patterns in other stores or buying patterns in general. This may take place, again, without revealing information of any other individual store.

2. PRODUCT BUYING INFORMATION MANAGEMENT

The same kind of analysis as consumer buying information is also possible on the product level. The transaction provider **12** may give product manufacturers information about how the sales of the product vary in different locations and at different times. Also, the buying histories of customers who have purchased the product can be compared to those who have not done so, or to those who have bought a competing product. This information can be used to analyze the segmentation of the market, for example to find that product A is favored over product B by heavy users. Buying of certain products together (e.g. refreshments) can also be analyzed.

3. CUSTOMER PROFILE MANAGEMENT

The transaction provider **12** can create profiles of customers based on their buying behavior. This information may be sold to third parties in an anonymous format and linked to other analysis.

4. LOYALTY MANAGEMENT

The transaction provider **12** can act as a loyalty scheme manager for transaction providers, or for product manufacturers. The transaction provider can prove for the transaction provider, that a certain number of purchases have been made by a certain user that gives the customer the right to receive some benefit (or that any other condition is fulfilled). If the user wishes, the user may reveal its identity to the transaction provider **12** in exchange for the benefit.

On the product buying level, the transaction provider **12** can accumulate purchases independent of the buying location (e.g. a certain grocery chain). For example, if a user buys Coca Cola® from different locations for a certain amount during a given period, the transaction provider may inform the user is eligible for a bonus CD from the Coca Cola Company.

5. USER INFORMATION MARKETING

More generally, the intermediary service provider **20** may market the information to third parties about the user's buying history in behalf of the user, who wants to receive money or other benefits in exchange. In this case, it is again essential that the user's identity can be protected from the transaction provider **12** by encryption or other techniques.

6. PERSONAL FINANCIAL MANAGEMENT

The intermediate service provider **20** may provide the users with a service detailing their consumption habits and history. This kind of service can be provided over the web or by using standard data formats for personal financial management software (i.e. Quicken).

The service can both give detailed records of committed purchases to the user, but in addition, to group products to categories. This way the user can for example follow, how much money has been used for food, clothing, home, car, amusement and other major categories at different times.

This information can be connected to financial planning applications, to enable the user to plan and follow their consumption in detail. The intermediate service provider **20** may provide the user with such planning services as well.

The service can also compare the purchasing behavior of the user, or user's household, to other similar users to show how the behavior differs from the typical user with the same background and income level.

Additionally, the information of purchases can be linked to other sources of information. For example, the purchased food items can be mapped to corresponding nutritional information, to provide the user with an indication of the healthiness of his diet.

7. PROFESSIONAL FINANCIAL MANAGEMENT

When a financial management service is provided to a commercial company, the information from multiple users can be automatically combined. Moreover, the information of purchases is available in almost real time, which may be significant to a large travelling work force or multiple remote sites.

8. PRICE TRACKING

The intermediate service provider **20** may provide users with information on price differences in different locations. It may allow the user to search for the lowest price of a product in an area, or calculate price indexes for groups of products, such as groceries. Moreover, it can compare the prices of a user's buying history at different locations to suggest the one that would have been the most inexpensive for the user.

FIGS. **3A–3C** illustrate a preferred embodiment of a process for collecting transaction data in accordance with the present invention which uses available cryptographic methods involving random session keys encrypted using public key cryptology. The described embodiment includes a protocol which hides the user's identity from the transaction provider **12** and optionally, the intermediate service provider **20** when desirable. The intermediate service provider **20** validates the information pertaining to the financial transaction and the user's identity and only allows the validated information to be processed. The aforementioned encryption also protects against third party unauthorized access when information is being transmitted between the various parts of the system of FIG. **1**. The process for collecting transaction information further permits verification that all of the transactions which have take place are correctly reported to the user information system.

Prior to description of each of the steps in FIGS. **3A–3C**, the following notations are defined as used in FIGS. **3A–3D** and **4A–4D**:

$E_k(M)$ Encryption of message M, using key k

$S_k(M)$ Signature of message M, using key k

$D_k(M)$ Decryption of message M, using key k

$V_k(M)$ Verfication of message M, using key k

H(M) A one-way hash value of a message M

k_p A randomly generated session key for party P

A The user device **14**

B The transaction provide **12**

C The intermediate service provider **20**

D The user information system **18**

T A message containing the transaction data

HT=H(T) Hash value of the transaction data

ID Customer identification

k_c A random session key for the intermediate service provider **20**

E_{k_c}( ) Encryption using the intermediate service provider's session key

k_D A random session key for the user information system **18**

E_{k_D}( ) Encryption using the user information system's session key

E_B( ) Encryption using the transaction provider's public key

E_C( ) Encryption using the intermediate service provider's public key

E_D( ) Encryption using the user information system's public key

D_b( ) Decryption using the transaction provider's private key

D_c( ) Decryption using the intermediate service provider's private key

D_d( ) Decryption using the user information system's private key

S_a=S_a(HT) Signature of the transaction data hash value generated by the user device **14**

S_b=S_b(HT) Signature of the transaction data hash value generated by the transaction provider

With reference to FIGS. **3A–3C**, the process **100** starts at point **102** where a financial transaction has occurred between the user of the user device **14** and the transaction provider **12** which results in a set of transaction data T being generated by the transaction provider's information system. The process proceeds to step **104** where the transaction data T is transferred to the user device **14** and the user device verifies that the data is correct. Protection of privacy of this message can be achieved through standard methods such as SSL. Processing proceeds to step **106** where the hash value of the transaction data HT is calculated by the user device **14**. Processing proceeds to step **108** where the hash value HT is signed by the user using the user device's private key "a" producing the quantity S_a. Processing proceeds to step **110** where a random session key K_c for the intermediate service provider **20** is generated by the user device **14**. Processing proceeds to step **111** where a random session key k_D for the user information system is generated by the user device **14**. Processing proceeds to step **112** where the random session key k_D for the user information system **18** is encrypted using the transaction provider's public key, producing $E_B(k_D)$. Processing proceeds to step **114** where the random session key k_D for the user information system **18** is encrypted using the user information system's public key D, producing $E_D(k_D)$. Processing proceeds to step **116** where the random session key k_c for the intermediate service provider **20** is encrypted using the intermediate service provider's public key C, producing $E_C(k_C)$. Processing proceeds to step **118** where the customer identification ID, the signature of the transaction data hash value S_a and the encrypted user information system's session key $E_D(k_D)$ are encrypted using the intermediate service provider's session key k_C, producing E_{k_c}, ID, S_a, $E_D(k_D)$. Processing proceeds to step **120** where the quantities $E_B(k_D)$, $E_c(k_c)$ and E_{k_c}(ID, S_a, $E_B(k_D)$) are transferred to the transaction provider's information system. Processing proceeds to step **122** where the hash values of the transaction data HT is calculated by the transaction provider. Processing proceeds to step **124** where the hash value is signed using the transaction provider's private key "b" producing S_b. Processing proceeds to step **126** where the encrypted user's information system's session key $B_b(k_D)$ is decrypted using the transaction provider's private key "b", recovering k_D. Processing proceeds to step **128** where the transaction data T is encrypted using the recovered user information system's session key k_D, producing $E_D(T)$. Processing proceeds to step **130** where the quantities; $E_kD(T)$, HT, $E_c(k_C)$, S_b and $E_kC(ID)$, S_a, $E_D(k_D)$) are transferred to the intermediate service provider **20**. Processing proceeds to step **132** where the encrypted intermediate service provider's session key $E_C(k_C)$ is decrypted using the intermediate service provider's private key "c", recovering k_C. Processing proceeds to step **134** where the encrypted user identification ID, signature S_a and the encrypted user information system's session key $E_D(k_D)$ are decrypted from E_{k_c}(ID), S_a, $E_D(k_D)$) using recovered k_c. Processing proceeds to step **136** where the signature S_a is verified using the user device's public key A and the result is compared to the hash value HT to verify the authenticity of the message. The public key may be retrieved based upon the customer identification. Processing proceeds to step **138** where the customer identification ID is used to determine the address of the user information system where the data is to be sent. Processing proceeds to step **140** where the encrypted user information system's session key $E_D(k_D)$, the encrypted transaction data $E_kD(T)$, the transaction provider's signature S_b and the user device's signature S_a are transferred to the user information system **18**. Processing proceeds to step **142** where the user information system's session key $S_D(k_D)$ is decrypted using the user information system's private key "d", recovering k_D. Processing proceeds to step **144** where the transaction data T is decrypted using the recovered user identification system's session key k_D, finally revealing the original transaction data T. Processing proceeds to step **146** where the integrity and authenticity of the transaction data and the identity of the user device are verified by calculating the hash value of the transaction data HT' and verifying the signature using the user's public key A and compared with the HT received from the intermediate service provider **20** which is the end of the process.

FIGS. **4A–4D** identify the inputs, processings and outputs respectively of the user device **14**, transaction provider **12**, intermediate service provider **20** and user information system **18** of the process of FIGS. **3A–3C**. The letter identifications "A–D" are respectively used in the various subscripts contained in the inputs, processings and outputs of the process of FIGS. **3A–3C** to respectively identify the transaction provider **12**, user device **14**, user information system **18**, and the intermediate service provider **20**.

Additionally, the intermediate service provider **20** may have the electronic receipt and additional information transmitted thereto from the transaction provider **12** in non-encrypted form in order to permit the intermediate service provider to achieve profits or otherwise make financial use of the information therein as described above. This may be achieved by transmitting the information from the transaction provider **12** to the intermediate service provider **20** using a hybrid encryption based upon the intermediate service provider's public key.

Furthermore, if the intermediate service provider stores both S_a which equals S_a(HT) and S_b equal S_b(HT), disputes may later be resolved by the intermediate service provider between the user of the user device **14** and the transaction provider **12**. If either the user of the user device **14** or the transaction provider **12** reveals the transaction data T, the intermediate service provider **20** may calculate if the quantity HT equals H(T) and then verify whether the information was authenticate using the corresponding public keys.

Similarly, the signature S_b may be transferred to the user device **14**, which encrypts the signature using the interme-

diate service provider's session key before sending it forward. A log of all transaction times and signatures is therefore retained in the user device **14**. If the user information system **18** has not received all transactions stored in the log, the user's possession of the signature may be used to prove that a questioned transaction actually took place.

Additionally, the intermediate service provider **20** may return a receipt of the received information to the transaction provider **12** thereby noting that the information transmitted by the transaction provider to the intermediate service provider was received correctly.

Finally, a simple protocol may be used to detect the comments and other information produced by the customer which do not pertain to the more sensitive electronic receipt and other transaction data.

While the invention has been described in terms of its preferred embodiments, it should be understood that numerous modifications may be made thereto without departing from the spirit and scope of the invention as defined in the appended claims. It is intended that all such modifications fall within the scope of the appended claims.

What is claimed is:

1. A system for collecting transaction data comprising:

a transaction provider which provides at least an electronic receipt of financial transactions offered by the transaction provider;

a user device, in communication with the transaction provider, which provides to the transaction provider a selection by a user of the user device of a financial transaction offered by the transaction provider and the user device in response to receipt of an electronic receipt provides an acceptance of the financial transaction recorded in the received electronic receipt to the transaction provider; and

a user information system, coupled to at least one of the transaction provider or the user device, which stores at least electronic receipts which are received from the user device or the transaction provider which are verified by the user information system to have been accepted by the user of the user device.

2. A system in accordance with claim **1** wherein:

the user device is a mobile terminal in wireless communication with at least the transaction provider.

3. A system in accordance with claim **2** wherein:

the user device adds to the electronic receipts additional information which is used by the user information system in processing at least the electronic receipts stored by the user information system.

4. A system in accordance with claim **1** wherein:

the user information system comprises a processor and a memory with the memory storing at least electronic receipts only after the verification of acceptance of the electronic receipts by the user; and

the processor provides at least one of accounting service and financial management service to the user.

5. A system in accordance with claim **4** wherein:

the user device adds to the electronic receipt additional information which is used by the user information system in processing at least the electronic receipts stored by the user information system.

6. A system in accordance with claim **4** wherein:

the user information system stores in the memory transaction information of the user, is operated by a company physically separated from the user and is connected to the user device by a wireless link.

7. A system in accordance with claim **1** wherein:

the user device is a smart card which is read by a smart card reader at the transaction provider to obtain at least the acceptance by the user of the financial transaction and the information permitting the transaction provider to verify that the electronic receipt is accepted by the user of the user device.

8. A system in accordance with claim **7** wherein:

the user device adds to the electronic receipt additional information which is used by the user information system in processing at least the electronic receipts stored by the user information system.

9. A system in accordance with claim **7** wherein:

the information provided by the user device to the transaction provider to permit the transaction provider to verify that the electronic receipt is accepted by the user of the user device comprises an electronic signature.

10. A system in accordance with claim **9** wherein:

the user information system also verifies at least any received electronic receipts with the electronic signature.

11. A system in accordance with claim **1** wherein:

the user device adds to the electronic receipt additional information which is used by the user information system in processing at least the electronic receipts stored by the user information system.

12. A system in accordance with claim **11** wherein:

the information provided by the user device to the transaction provider to permit the transaction provider to verify that the electronic receipt is accepted by the user of the user device comprises an electronic signature.

13. A system in accordance with claim **11** wherein:

the user information system also verifies at least any received electronic receipts with the electronic signature.

14. A system in accordance with claim **1** wherein:

the user device adds to the electronic receipt comments from the user providing additional information about the financial transaction beyond information contained in an electronic receipt.

15. A system in accordance with claim **1** wherein:

the information provided by the user device to the transaction provider to permit the transaction provider to verify that the electronic receipt is accepted by the user of the user device comprises an electronic signature.

16. A system in accordance with claim **10** wherein:

the user information system also verifies at least any received electronic receipts with the electronic signature.

17. A system in accordance with claim **1** wherein:

the transaction provider also provides to the user device electronic data identifying financial transactions which are offered by the transaction provider.

18. A system for collecting transaction data comprising:

a transaction provider which provides at least an electronic receipt of financial transactions obtained from the transaction provider;

a user device, in communication with the transaction provider, which provides to the transaction provider a selection by a user of the user device of a financial transaction offered by the transaction provider and the user device in response to receipt of an electronic receipt provides an acceptance of the financial transaction recorded in the received electronic receipt to the transaction provider;

an intermediate service provider, coupled to the transaction provider, which processes information relating to

the accepted financial transaction transmitted by the transaction provider to the intermediate service provider to produce processed information pertaining to the accepted financial transaction; and

a user information system, coupled to the intermediate service provider, which stores at least electronic receipts which are received from the intermediate service provider which are verified by the user information system to have been accepted by the user of the user device.

19. A system in accordance with claim 18 wherein:

the intermediate service provider is a financial institution which processes the information relating to the accepted financial transaction against an account which the user has with the intermediate service provider.

20. A system in accordance with claim 19 wherein:

the user device adds to the electronic receipt additional information which is used by the user information system in processing at least the electronic receipts stored by the user information system.

21. A system in accordance with claim 20 wherein:

the information provided by the user device to permit the transaction provider to verify that the electronic receipt is correct comprises an electronic signature.

22. A system in accordance with claim 21 wherein:

the user information system also verifies at least any received electronic receipts with the electronic signature.

23. A system in accordance with claim 19 wherein:

the information provided by the user device to permit the transaction provider to verify that the electronic receipt is correct comprises an electronic signature.

24. A system in accordance with claim 23 wherein:

the user information system also verifies at least any received electronic receipts with the electronic signature.

25. A system in accordance with claim 19 wherein:

the user device encrypts an identity of the user from at least the transaction provider.

26. A system in accordance with claim 25 wherein:

the user device also encrypts contents of the electronic receipt from being accessed by the intermediate service provider.

27. A system in accordance with claim 19 wherein:

the financial institution validates the information relating to the selected financial transaction is correct as associated with the account of the user.

28. A system in accordance with claim 27 wherein:

the financial institution provides information to the user information system that the financial transaction has occurred between the user and transaction provider.

29. A system in accordance with claim 18 wherein:

the user device adds to the electronic receipt additional information which is used by the user information system in processing at least the electronic receipts stored by the user information system.

30. A system in accordance with claim 29 wherein:

the information provided by the user device to permit the transaction provider to verify that the electronic receipt is correct comprises an electronic signature.

31. A system in accordance with claim 30 wherein:

the user information system also verifies at least any received electronic receipts with the electronic signature.

32. A system in accordance with claim 29 wherein:

the user device encrypts an identity of the user from at least the transaction provider.

33. A system in accordance with claim 32 wherein:

the user device also encrypts contents of the electronic receipt from being accessed by the intermediate service provider.

34. A system in accordance with claim 18 wherein:

the information provided by the user device to permit the transaction provider to verify that the electronic receipt is correct comprises an electronic signature.

35. A system in accordance with claim 34 wherein:

the user information system also verifies at least any received electronic receipts with the electronic signature.

36. A system in accordance with claim 35 wherein:

the user device encrypts an identity of the user from at least the transaction provider.

37. A system in accordance with claim 36 wherein:

the user device also encrypts contents of the electronic receipt from being accessed by the intermediate service provider.

38. A system in accordance with claim 34 wherein:

the user device encrypts contents of the electronic receipt from at least the transaction provider.

39. A system in accordance with claim 38 wherein:

the user device also encrypts contents of the electronic receipt from being accessed by intermediate service provider.

40. A system in accordance with claim 18 wherein:

the user device encrypts an identity of the user from at least the transaction provider.

41. A system in accordance with claim 40 wherein:

the user device also encrypts contents of the electronic receipt from being accessed by the intermediate service provider.

42. A system in accordance with claim 18 wherein:

the user information system comprises a processor and a memory with the memory storing at least electronic receipts only after the verification of acceptance of the electronic receipts by the user; and

the processor provides at least one of accounting service and financial management service to the user.

43. A system in accordance with claim 18 wherein:

the user information system stores in the memory transaction information of the user, is operated by a company physically separated from the user and is connected to the user device by a wireless link.

44. A process for collecting transaction data comprising:

providing from a transaction provider to a user device at least an electronic receipt of a financial transaction obtained by the user from the transaction provider;

providing a verification from the user device to the transaction provider in the electronic receipt that the financial transaction is accepted by a user of the user device;

transmitting from either the transaction provider or the user device to a user information system at least the electronic receipt; and

storing at least the electronic receipt with the user information system when at least the electronic receipt is verified by the user information system to have been accepted by the user of the user device.

45. A process in accordance with claim 44 wherein:

the user device adds to the electronic receipt additional information which is used by the user information

system in processing at least the electronic receipt stored by the user information system.

46. A process in accordance with claim 44 wherein:

the information provided by the user device to the transaction provider to permit the transaction provider to verify that the electronic receipt is accepted by the user of the user device comprises an electronic signature.

47. A process in accordance with claim 46 wherein:

the user information system also verifies at least any received electronic receipts with the electronic signature.

48. A process in accordance with claim 44 wherein:

the transaction provider also provides to the user device electronic data identifying financial transactions which are offered by the transaction provider.

49. A process in accordance with claim 44 wherein:

the user information system comprises a processor and a memory with the memory storing at least electronic receipts only after the verification of acceptance of the electronic receipts by the user; and

the processor provides at least one of accounting service and financial management service to the user.

50. A process for collecting transaction data comprising:

providing form a transaction provider to a user device at least an electronic receipt of a financial transaction obtained by the user from the transaction provider;

providing a verification from the user device to the transaction provider in the electronic receipt that the financial transaction is accepted by a user of the user device;

transmitting information relating to the accepted financial transaction from the transaction provider to an intermediate service provider;

processing the information relating to the accepted financial transaction with the intermediate service provider to produce processed information pertaining to the accepted financial transaction; and

receiving at least the electronic receipt with a user information system from the intermediate service provider and storing at least the electronic receipt when at least the electronic receipt is verified by the user information system to have been accepted by the user of the user device.

51. A process in accordance with claim 50 wherein:

the intermediate service provider is a financial institution which processes the information relating to the selected financial transaction against an account which the user has with the intermediate service provider.

52. A process in accordance with claim 50 wherein:

the user device adds to the electronic receipt additional information which is used by the user information system in processing at least the electronic receipt stored by the user information system.

53. A process in accordance with claim 50 wherein:

the information provided by the user device to the transaction provider to permit the transaction provider to verify that the electronic receipt is accepted by the user of the user device comprises an electronic signature.

54. A process in accordance with claim 53 wherein:

the user information system also verifies at least any received electronic receipts with the electronic signature.

55. A process in accordance with claim 50 wherein:

the user device encrypts an identity of the user from at least the transaction provider.

56. A process in accordance with claim 55 wherein:

the user device also encrypts the contents of the electronic receipt from being accessed by the intermediate service provider.

57. A process in accordance with claim 51 wherein:

the financial institution validates the information relating to the accepted financial transaction is correct as associated with the account of the user.

58. A process in accordance with claim 57 wherein:

the financial institution provides information to the user information system that the financial transaction has occurred between the user and transaction provider.

59. A process in accordance with claim 50 wherein:

the intermediate service provider provides the transaction provider with an analysis of financial transactions accepted by the user of the user device.

60. A process in accordance with claim 59 wherein:

the analysis is a statistical analysis.

61. A process in accordance with claim 50 wherein:

the transaction provider provides an analysis of sales of particular types of financial transactions to manufacturers of products which are involved with the sale.

62. A process in accordance with claim 61 wherein:

the analysis involves at least one of location and time that the sales were made.

63. A process in accordance with claim 50 wherein:

the transaction provider creates profiles of a user of the user device based on types of purchases which are made.

64. A process in accordance with claim 50 wherein:

the transaction provider provides a tabulation of purchases made by users of the user device.

65. A process in accordance with claim 64 wherein:

the tabulation is provided by the transaction provider to a manufacturer of products purchased with each financial transaction.

66. A process in accordance with claim 50 wherein:

the intermediate service provider provides the history of a user financial transaction to another for a benefit of the user.

67. A process in accordance with claim 50 wherein:

the intermediate service provider provides a user of the user device with an analysis of the user's history of financial transactions.

68. A process in accordance with claim 67 wherein:

the analysis identifies types of financial transactions which the user has accepted.

69. A process in accordance with claim 68 wherein:

the analysis groups products which are involved in financial transactions according to categories.

70. A process in accordance with claim 68 wherein:

the analysis compares the user's history of financial transactions with a history of financial transactions of others.

71. A process in accordance with claim 50 wherein:

the user device is used by members of an organization and information of multiple users is combined in the user information system.

72. A process in accordance with claim 50 wherein:

the user information system comprises a processor and a memory with the memory storing at least electronic receipts only after the verification of acceptance of the electronic receipts by the user; and

the processor provides at least one of accounting service and financial management service to the user.

73. A process in accordance with claim 72 wherein:

the user information system stores in the memory transaction information of the user, is operated by a company physically separated from the user and is connected to the user device by a wireless link.

74. A process in accordance with claim 50 wherein:

the user information system comprises a processor and a memory with the memory storing at least electronic receipts only after the verification of acceptance of the electronic receipts by the user; and

the processor provides at least one of accounting service and financial management service to the user.

75. A process in accordance with claim 74 wherein:

the user information system stores in the memory transaction information of the user, is operated by a company physically separated from the user and is connected to the user device by a wireless link.

76. A system for collecting transaction data comprising:

a plurality of transaction providers, each transaction provider providing at least an electronic receipt of financial transactions obtained therefrom;

a plurality of user devices, in communication with the plurality of transaction providers, which provide to at least one transaction provider a selection by a user of each user device of an offered financial transaction and in response to receipt of an electronic receipt an acceptance of the transaction recorded in the received electronic receipt;

at least one intermediate service provider, coupled to each transaction provider, which processes information relating to the accepted financial transaction transmitted by each transaction provider to the at least one intermediate service provider to produce processed information pertaining to the selected financial transaction; and

at least one user information system, coupled to at least one intermediate service provider, each user information system storing at least electronic receipts which are received from each intermediate service provider which are verified by the at least one user information system to have been accepted by the user of each user device.

77. A system in accordance with claim 76 wherein:

the intermediate service provider provides to at least one user of the user devices information on price differences at different locations at which the plurality of transaction providers are located.

78. A system in accordance with claim 76 wherein:

the user information system comprises a processor and a memory with the memory storing at least electronic receipts only after the verification of acceptance of the electronic receipts by the user; and

the processor provides at least one of accounting service and financial management service to the user.

79. A system in accordance with claim 78 wherein:

the user information system stores in the memory transaction information of the user, is operated by a company physically separated from the user and is connected to the user device by a wireless link.

* * * * *

STIC Search Report
EIC 2100

STIC Database Tracking Number: 121704

TO: John Lane **Location:** **Art Unit : 2188** **Monday, May 17, 2004** **Case Serial Number: 09775783**	**From: Terese Esterheld** **Location: EIC 2100** **PK2-4B30** **Phone: 308-7795** **Terese.esterheld@uspto.gov**

Search Notes

Dear Examiner Lane,

Attached, please find the results of your search request for application 09775783. I have concentrated on finding information on all aspects requested on the search request.

Please look over the complete package as there are items that are not marked that could be of value to you.

Please let me if you need additional information on this search.

Thank you for coming to EIC 2100.

Terese Esterheld

Access DB# 121704

(41)

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Jack Lane Examiner #: 68699 Date: Feb. 2, 2001
Art Unit: 2188 Phone Number 305-3818 Serial Number: 09/775,783
Mail Box Location: 2Y13 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

****

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Data processing system, device, and method, and program storage medium

Inventors (please provide full names): Naoya Suzuki Hidekazu Tanaka

Earliest Priority Filing Date: Feb 4, 2000

***For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.**

See Abstract, claims and figure.

Search:

(wireless or bluetooth) and/or (storage or memory or ram) and/or (telephone or phone or cellular) and/or (short adj5 range))

****

STAFF USE ONLY

Searcher: Terese Esterfield
Searcher Phone #: 308-7795
Searcher Location: 4B30
Date Searcher Picked Up: 5/14/04 11:45 am
Date Completed: 5/17/04 9:45 am
Searcher Prep & Review Time:
Clerical Prep Time:

Type of Search

NA Sequence (#)
AA Sequence (#)
Structure (#)
Bibliographic
Litigation
Fulltext
Patent Family

Vendors and cost where applicable

STN
Dialog
Questel/Orbit
Dr.Link
Lexis/Nexis
Sequence Systems
WWW/Internet

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Set     Items   Description
S1      39503   AU=(SUZUKI, N? OR SUZUKI N? OR TANAKA, H? OR TANAKA H?)
S2       2317   S1 AND IC=G06F?
S3        575   S2 AND IC=G06F-015?
S4          2   S3 AND IC=G06F-015/167
S5          3   S3 AND PROGRAM()STORAGE
S6         10   S3 AND DATA()PROCESSING
S7         14   S4 OR S5 OR S6
File 347:JAPIO Nov 1976-2003/Dec(Updated 040402)
         (c) 2004 JPO & JAPIO
File 348:EUROPEAN PATENTS 1978-2004/May W01
         (c) 2004 European Patent Office
File 349:PCT FULLTEXT 1979-2002/UB=20040506,UT=20040429
         (c) 2004 WIPO/Univentio
File 350:Derwent WPIX 1963-2004/UD,UM &UP=200430
         (c) 2004  Thomson Derwent
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7/5/1 (Item 1 from file: 347)
DIALOG(R)File 347:JAPIO

07489702 **Image available**
DATA PROCESSING METHOD, PROGRAM FOR USE IN **DATA PROCESSING** AND RECORDING MEDIUM OF THE PROGRAM

PUB. NO.: 2002-358220 [JP 2002358220 A]
PUBLISHED: December 13, 2002 (20021213)
INVENTOR(s): **TANAKA HIRONORI**
MATSUMOTO SATORU
MATSUNO TETSUYA
TOKURA TOMOAKI
TOMIOKA JUNICHI
HIROSE KAZUYUKI
SADA TAKERO
SAIGO TSUTOMU
APPLICANT(s): FUJITSU LTD
APPL. NO.: 2001-167532 [JP 2001167532]
FILED: June 04, 2001 (20010604)
INTL CLASS: **G06F-012/00** ; **G06F-009/46** ; **G06F-011/34** ; **G06F-015/00**

ABSTRACT

PROBLEM TO BE SOLVED: To provide a new **data processing** technique that allows executing processing such as updating of a business date, which is performed by on-line job processing between each transaction while taking consistency.

SOLUTION: In a **data processing** method for executing **data processing** using a program wherein a processing request being queued in a message queue is extracted sequentially and processed, there are provided a process for determining whether it arrives at a execution timing of predetermined processing, a process for clogging the message queue when having determined the arrival to the execution timing, a process for executing the predetermined processing when the clogging of the message queue is completed, and a process for releasing the clogging of the message queue when the predetermined processing has been completed.

7/5/2 (Item 2 from file: 347)
DIALOG(R)File 347:JAPIO

06996111 **Image available**
INFORMATION PROCESSING SYSTEM, INFORMATION PROCESSING UNIT AND ITS METHOD, **PROGRAM STORAGE** MEDIUM AND TRANSMITTER

PUB. NO.: 2001-223691 [JP 2001223691 A]
PUBLISHED: August 17, 2001 (20010817)
INVENTOR(s): **SUZUKI NAOYA**
APPLICANT(s): SONY CORP
APPL. NO.: 2000-032815 [JP 200032815]
FILED: February 04, 2000 (20000204)
INTL CLASS: H04L-009/32; **G06F-001/00** ; **G06F-015/00** ; H04Q-007/38

ABSTRACT

PROBLEM TO BE SOLVED: To obtain an information processing system that can easily execute security management.

SOLUTION: The information processing system is provided with a transmitter 3, that transmits specific identification information and with an information processing unit 2 that executes prescribed processing, when receiving the same identification information as identification information

registered in advance. Thus, a user has only to carry the transmitter 3 to manage the security of the information processing unit 2, without the need for conducting special operations.

7/5/3 (Item 3 from file: 347)
DIALOG(R)File 347:JAPIO

06537246 **Image available**
PROCESSOR EXECUTING TRANSACTION PROCESSING ON DATA MADE INTO LOT AND PROCESSING METHOD

PUB. NO.: 2000-122970 [JP 2000122970 A]
PUBLISHED: April 28, 2000 (20000428)
INVENTOR(s): **TANAKA HIRONORI**
KIJIRO MICHIO
TAKAGI TAKASHI
TAKANO MAKOTO
YAMAMOTO MAYUMI
TOMIOKA JUNICHI
SHINPO MASAHITO
SADA TAKERO
APPLICANT(s): FUJITSU LTD
APPL. NO.: 10-295252 [JP 98295252]
FILED: October 16, 1998 (19981016)
INTL CLASS: **G06F-015/00 ; G06F-012/08 ; G06F-019/00**

ABSTRACT
PROBLEM TO BE SOLVED: To execute a batch processing at high speed in a **data processing** system.

SOLUTION: A center collective processing program 33 executes three data processings on the record (n) of customer account DB by one transaction by using an I/O buffer 31, really updates DB and writes updated data into a history log file 32 when the transaction terminates. At the time of abnormal termination, a system regenerates a center collective processing program 33, automatically continues the processing, preserves information on abnormal data and retries the **data processing** .

7/5/4 (Item 4 from file: 347)
DIALOG(R)File 347:JAPIO

06425299 **Image available**
CACHE MEMORY CONTROL METHOD

PUB. NO.: 2000-010862 [JP 2000010862 A]
PUBLISHED: January 14, 2000 (20000114)
INVENTOR(s): **TANAKA HIDEHIKO**
SATO MITSURU
INOUE NAOKI
APPLICANT(s): HITACHI SOFTWARE ENG CO LTD
SATO MITSURU
APPL. NO.: 10-175473 [JP 98175473]
FILED: June 23, 1998 (19980623)
INTL CLASS: **G06F-012/08 ; G06F-015/163**

ABSTRACT
PROBLEM TO BE SOLVED: To advance an efficient **data processing** by sufficiently displaying the function of a cache memory irrelevantly to the properties of memory access by an application program running on a

decentralized common memory type parallel computer system.

SOLUTION: A cache memory is divided into cache blocks 201 consisting of plural addresses and the update frequencies of the cache blocks 201 are measured, and the cache protocol for maintaining the consistency of data is dynamically switched from a protocol for a update type to a protocol for an invalidation type and vice versa according to the measurement results.

7/5/5 (Item 5 from file: 347)
DIALOG(R)File 347:JAPIO

06220044 **Image available**
OPERATION INFORMATION MANAGING METHOD OF MULTICLUSTER SYSTEM, MULTICLUSTER SYSTEM, AND **PROGRAM** · **STORAGE** MEDIUM FOR ON-LINE OPERATION INFORMATION MANAGEMENT

PUB. NO.: 11-161605 [JP 11161605 A]
PUBLISHED: June 18, 1999 (19990618)
INVENTOR(s): TOMIOKA JUNICHI
KIJIRO MICHIO
TANAKA HIRONORI
SADA TAKERO
TAKAGI TAKASHI
APPLICANT(s): FUJITSU LTD
APPL. NO.: 09-327626 [JP 97327626]
FILED: November 28, 1997 (19971128)
INTL CLASS: **G06F-015/00 ; G06F-015/00 ; G06F-011/20 ; G06F-012/00**

ABSTRACT

PROBLEM TO BE SOLVED: To secure the identity of data between clusters, to actualize the improvement of access capability, and to guarantee data in the case of abnormality as to the on-line operation information managing method of a system which processes on-line operation on clusters in parallel.

SOLUTION: A main storage device 13 on each cluster 10 is stored 14 with operation information needed for on-line operation and if an update event occurs to the operation information in some cluster 10, an update process for the same update data is performed dynamically for main storage devices 13 of other clusters 10 to retain the same operation information at respective clusters 10. At this time, the reflection of operation information which is updated on a main storage device 13 is performed in synchronism with the completion of a transaction having generated the update event of the operation information.

7/5/6 (Item 6 from file: 347)
DIALOG(R)File 347:JAPIO

04969489 **Image available**
LOCK ACCESS CONTROL METHOD AND INFORMATION PROCESSOR

PUB. NO.: 07-262089 [JP 7262089 A]
PUBLISHED: October 13, 1995 (19951013)
INVENTOR(s): **SUZUKI NOBUYUKI**
MORIOKA TETSUYA
APPLICANT(s): FUJITSU LTD [000522] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 06-047039 [JP 9447039]

FILED: March 17, 1994 (19940317)
INTL CLASS: [6] **G06F-012/08 ; G06F-012/00 ; G06F-015/16**
JAPIO CLASS: 45.2 (INFORMATION PROCESSING -- Memory Units); 45.4 (INFORMATION PROCESSING -- Computer Applications)

ABSTRACT

PURPOSE: To attain a lock access of a store-in system and also to minimize the deterioration of performance of a lock access control system in regard of this system and an information processor which are used in an information processor of the store-in system consisting of plural processors and a storage shared by these processors.

CONSTITUTION: When each **data processing** part 1 accesses the data on a prescribed area of a main storage 2, the data on a prescribed area are exclusively stored in a buffer storage part 3 of the part 1 itself, and the accesses of other parts 1 are inhibited to the prescribed area of the part 2. Besides, the address of the data on the prescribed area is held by the part 1 as a lock address until the access is finished to the data on the prescribed area, and the release of the data on the prescribed area is inhibited at the part 3 as long as the lock address is held by the part 1.

7/5/7 (Item 7 from file: 347)
DIALOG(R)File 347:JAPIO

03450753 **Image available**
ADDRESS GENERATION CIRCUIT

PUB. NO.: 03-113653 [JP 3113653 A]
PUBLISHED: May 15, 1991 (19910515)
INVENTOR(s): **TANAKA HIDEO**
APPLICANT(s): NEC CORP [000423] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 01-254258 [JP 89254258]
FILED: September 28, 1989 (19890928)
INTL CLASS: [5] **G06F-012/02 ; G06F-015/347**
JAPIO CLASS: 45.2 (INFORMATION PROCESSING -- Memory Units); 45.4 (INFORMATION PROCESSING -- Computer Applications)
JAPIO KEYWORD: R131 (INFORMATION PROCESSING -- Microcomputers & Microprocessers)
JOURNAL: Section: P, Section No. 1237, Vol. 15, No. 316, Pg. 77, August 13, 1991 (19910813)

ABSTRACT

PURPOSE: To speed up a **data processing** by accessing one side of data being a pair and accessing the other side of data without converting the address value of a memory where data is stored in a complex operation which is required in the **data processing** requiring the access of data that comes to be a pair.

CONSTITUTION: An address register 1, a conversion circuit 2 consisting of an invertor 6 inverting the output of the address register 1 and a selection circuit 3 consisting of transfer gates 7 and 8 which are respectively connected to respective outputs of the address register 1 and the conversion circuit 2 are used. It is switched whether the output value of the address register 1 is outputted as it is or the inverted conversion value is outputted, and the other side of data is accessed by designating the address of one side of data. Thus, the processing time of one address operation is eliminated and the **data processing** is speeded up.

7/5/8 (Item 8 from file: 347)
DIALOG(R)File 347:JAPIO

02469737 **Image available**

POS TERMINAL EQUIPMENT

PUB. NO.: 63-086637 [JP 63086637 A]
PUBLISHED: April 18, 1988 (19880418)
INVENTOR(s): **TANAKA HIDEO**
APPLICANT(s): TOKYO ELECTRIC CO LTD [000356] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 61-229860 [JP 86229860]
FILED: September 30, 1986 (19860930)
INTL CLASS: [4] H04L-013/00; **G06F-015/21** ; G07G-001/14
JAPIO CLASS: 44.3 (COMMUNICATION -- Telegraphy); 29.4 (PRECISION INSTRUMENTS -- Business Machines); 45.4 (INFORMATION PROCESSING -- Computer Applications)
JOURNAL: Section: E, Section No. 652, Vol. 12, No. 322, Pg. 51, August 31, 1988 (19880831)

ABSTRACT

PURPOSE: To execute an operation even if a power source switch is cut off by mistake by making a relay contact which is made to intervene on a by-pass line for short-circuiting the power source switch in an ON state at the time of starting a **data processing** with a POS control part and in an OFF state at the time of completing the **data processing** by a contact switching means.

CONSTITUTION: The relay contact C is made to intervene on the by-pass line B which is provided for short-circuiting the power source switch A executing the ON/OFF switching of a power source (a). The relay contact C is made to be in the ON state at the time of starting the **data processing** with POS(point of sales) control part, 2 and in the OFF state at the time of completing the **data processing** by the contact switching means D. Even if the power source switch A is turned to the OFF state, the supply of the power source can be executed through the by-pass line, so that a stable inspecting/calculating opera tion can be executed, because the relay contact C is in the ON state at the time of executing the **data processing** .

7/5/9 (Item 9 from file: 347)

02393362 **Image available**
DOCUMENT PREPARING DEVICE

PUB. NO.: 63-010262 [JP 63010262 A]
PUBLISHED: January 16, 1988 (19880116)
INVENTOR(s): OKADA MIYAKO
TANAKA HIROHIKO
APPLICANT(s): MATSUSHITA ELECTRIC IND CO LTD [000582] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 61-154520 [JP 86154520]
FILED: July 01, 1986 (19860701)
INTL CLASS: [4] **G06F-015/20**
JAPIO CLASS: 45.4 (INFORMATION PROCESSING -- Computer Applications)
JAPIO KEYWORD:R137 (ELECTRONIC MATERIALS -- Josephson Devices)
JOURNAL: Section: P, Section No. 718, Vol. 12, No. 214, Pg. 45, June 18, 1988 (19880618)

ABSTRACT

PURPOSE: To decrease the area of the character string data and at the same time to increase the **data processing** efficiency of agates when the agates are turned into codes, by defining HIRAGANA (cursive form of Japanese syllabary) and KATAKANA (square form of Japanese syllabary) of agates in a single byte and facilitating the conversion of existing codes.

CONSTITUTION: As shown in a diagram, a code defining part defines HIRAGANA and KATAKANA of agates in a single byte. A code converting part performs

conversion between the codes defined by the code defining part and the existing codes in a single addition/subtraction. In other words, a shift JIS code can be converted into an agate code just by the single operation of subtraction and vice versa by the single operation of addition respectively. Thus it is possible to decrease the area of character string data and also to improve the **data processing** efficiency of agates when the agates are turned into codes.

7/5/10 (Item 10 from file: 347)
DIALOG(R)File 347:JAPIO

01520074 **Image available**
TRANSACTION **DATA PROCESSING** SYSTEM

PUB. NO.: 59-231674 [JP 59231674 A]
PUBLISHED: December 26, 1984 (19841226)
INVENTOR(s): **TANAKA HIROSHI**
MASUMOTO SUSUMU
SAITO YUTAKA
APPLICANT(s): FUJITSU LTD [000522] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 58-107128 [JP 83107128]
FILED: June 15, 1983 (19830615)
INTL CLASS: [3] **G06F-015/21**
JAPIO CLASS: 45.4 (INFORMATION PROCESSING -- Computer Applications); 29.4 (PRECISION INSTRUMENTS -- Business Machines)
JOURNAL: Section: P, Section No. 355, Vol. 09, No. 109, Pg. 136, May 14, 1985 (19850514)

ABSTRACT

PURPOSE: To sum up the sales of transaction data automatically by inputting transaction data at the 1st point of time when a transaction is closed, and inputting only a slip issue number regarding the transaction at the 2nd point of time of the settlement of accounts of the transaction.

CONSTITUTION: When a transaction contract with a customer is made, a request C for the issue number of a slip 5 is sent from the side of a POS1 to a center 3. The center 3 sends the issue number A to the POS1 and also writes in a file 9. The POS1 prints the issue number A, transaction data T, and total amount S on the slip 5, and sends the transaction data T and total amount S to the center 3 to write them in the file 9. Then, when the accounts of the transaction with the customer are settled, a control part 10 sets the total amount S in a register 11 and also sends the issue number A to the center 3; and the number is used as a key to access the file 9, and the total amount S is read and sent to the POS1. the POS1 compares it with the contents of the register 11 to send an OK signal to the center 3 when they coincide with each other, and a processing part 6 sums up data in the file 9 and outputs the total data on a printer 12.

7/5/11 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX

014439208 **Image available**
WPI Acc No: 2002-259911/200231
XRPX Acc No: N02-201577
Information processing system utilizing portable telephone and notebook personal computer, controls processing command to execute processing corresponding to user's input operation to remote control terminal
Patent Assignee: SONY CORP (SONY)
Inventor: **SUZUKI N**
Number of Countries: 029 Number of Patents: 004
Patent Family:
Patent No Kind Date Applicat No Kind Date Week

EP 1182853 A2 20020227 EP 2001120032 A 20010820 200231 B
JP 2002062961 A 20020228 JP 2000250142 A 20000821 200231
US 20020026494 A1 20020228 US 2001928353 A 20010814 200231
KR 2002015273 A 20020227 KR 200148472 A 20010811 200258

Priority Applications (No Type Date): JP 2000250142 A 20000821
Patent Details:
Patent No Kind Lan Pg Main IPC Filing Notes
EP 1182853 A2 E 18 H04M-001/247
Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR
JP 2002062961 A 11 G06F-003/00
US 20020026494 A1 G06F-015/167
KR 2002015273 A H04Q-009/00

Abstract (Basic): EP 1182853 A2

NOVELTY - A receiver receives processing command transmitted from a remote control terminal. A controller controls function corresponding to the processing command to execute processing corresponding to user's input operation to remote control terminal.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(a) Information processing method;
(b) Information processing device;
(c) Information processing program;
(d) Remote controller terminal.

USE - Information processing system utilizing portable telephone, notebook personal computer.

ADVANTAGE - Facilitates improved operability of the system, without wiring connection. Remotely operates the personal computer using mobile telephone.

DESCRIPTION OF DRAWING(S) - The figure shows the schematic view of information processing system.

pp; 18 DwgNo 1/9

Title Terms: INFORMATION; PROCESS; SYSTEM; UTILISE; PORTABLE; TELEPHONE; PERSON; COMPUTER; CONTROL; PROCESS; COMMAND; EXECUTE; PROCESS; CORRESPOND ; USER; INPUT; OPERATE; REMOTE; CONTROL; TERMINAL
Derwent Class: T01; W01
International Patent Class (Main): **G06F-003/00 ; G06F-015/167 ;** H04M-001/247; H04Q-009/00
International Patent Class (Additional): **G06F-003/033 ;** H04L-012/28
File Segment: EPI

7/5/12 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX

014433944 **Image available**
WPI Acc No: 2002-254647/200230
XRPX Acc No: N02-196724

Security management method and apparatus using radio communication devices, e.g. portable phone for activating a personal computer, determines that a valid user is present only if the terminal identifier (ID) is matched with registered ID

Patent Assignee: SONY CORP (SONY); SUZUKI N (SUZU-I)
Inventor: **SUZUKI N**
Number of Countries: 002 Number of Patents: 002
Patent Family:
Patent No Kind Date Applicat No Kind Date Week
US 20010031637 A1 20011018 US 2001775739 A 20010202 200230 B
JP 2001223691 A 20010817 JP 200032815 A 20000204 200230

Priority Applications (No Type Date): JP 200032815 A 20000204
Patent Details:
Patent No Kind Lan Pg Main IPC Filing Notes
US 20010031637 A1 13 H04M-001/00

JP 2001223691 A 9 H04L-009/32
Abstract (Basic): US 20010031637 A1

NOVELTY - The information processing system, e.g. notebook (2) that includes security management program to transmits a terminal identifier (ID) to a portable phone (3) via the radio interface. The portable phone reads the registered ID information and sends it the notebook for authentication. The notebook transmits terminal ID repetitively at a predetermined interval during its operation to determine if a valid user is present.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following;

(1) An information processing apparatus.

(2) A method of information processing.

(3) A **program storage** medium for enabling information processing apparatus to execute a program.

USE - Information processing apparatus such as a personal computer.

ADVANTAGE - The terminal identification information is matched with the registered identification information for activating the operation of the information system, e.g. notebook and does not use the conventional method of password, therefore the user does not have to worry about remembering any password. The notebook transmits terminal ID repetitively at a predetermined interval during its operation to determine the validity of the current user therefore the user only needs to carry a transmitter to stop unauthorized use of the system.

DESCRIPTION OF DRAWING(S) - The drawing shows a schematic view illustrating the overall configuration of the system.

Notebook (2)

Portable phone (3)

pp; 13 DwgNo 1/6

Title Terms: SECURE; MANAGEMENT; METHOD; APPARATUS; RADIO; COMMUNICATE; DEVICE; PORTABLE; TELEPHONE; ACTIVATE; PERSON; COMPUTER; DETERMINE; VALID ; USER; PRESENT; TERMINAL; IDENTIFY; ID; MATCH; REGISTER; ID
Derwent Class: T01; W01
International Patent Class (Main): H04L-009/32; H04M-001/00
International Patent Class (Additional): **G06F-001/00** ; **G06F-015/00** ; H04Q-007/38
File Segment: EPI

7/5/13 (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX

014077493 **Image available**
WPI Acc No: 2001-561707/200163
XRPX Acc No: N01-417816

Data processing **system processes data selected within information list, within memory capacity**

Patent Assignee: SONY CORP (SONY); SUZUKI N (SUZU-I); TANAKA H (TANA-I)
Inventor: **SUZUKI N** ; **TANAKA H**
Number of Countries: 002 Number of Patents: 002
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
JP 2001215975	A	20010810	JP 200032816	A	20000204	200163	B
US 20010025302	A1	20010927	US 2001775783	A	20010202	200164	

Priority Applications (No Type Date): JP 200032816 A 20000204
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 2001215975	A		9	G10K-015/04	
US 20010025302	A1			G06F-015/16	

Abstract (Basic): JP 2001215975 A

NOVELTY - The system displays the list of information about a predetermined stored data in display section (21). A notebook type personal computer (3) selects specified data within the list and processes within the memory capacity.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:
(a) Data processor;
(b) **Data processing** method;
(c) **Data processing** program storing medium;
(d) Music data reproducing apparatus
USE - For music data reproducing apparatus (claimed) e.g. MP3 player.
ADVANTAGE - Enables to process multiple data irrespective of the memory capacity of the memory unit.
DESCRIPTION OF DRAWING(S) - The figure shows the diagram of information processing system. (Drawing includes non-English language text).
Notebook type personal computer (3)
Display section (21)
pp; 9 DwgNo 1/7

Title Terms: DATA; PROCESS; SYSTEM; PROCESS; DATA; SELECT; INFORMATION; LIST; MEMORY; CAPACITY
Derwent Class: P86; T01; W04
International Patent Class (Main): **G06F-015/16** ; G10K-015/04
International Patent Class (Additional): **G06F-013/00** ; **G06F-015/167** ; G10L-013/00; G10L-019/00; G10L-021/06
File Segment: EPI; EngPI

7/5/14 (Item 4 from file: 350)
DIALOG(R)File 350:Derwent WPIX

009344999 **Image available**
WPI Acc No: 1993-038472/199305
XRPX Acc No: N93-029470

Print controller with power saving control for e.g. ink jet printer - performs transition of power saving states in printer and control operations independently of state transitions in computer

Patent Assignee: CANON KK (CANO)
Inventor: FUKUNAGA K; NAITO H; NISHIYAMA M; OIDA J; **SUZUKI N** ; TAKAHASHI T ; TATEYAMA J; OIDA
Number of Countries: 006 Number of Patents: 006
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 526189	A2	19930203	EP 92306933	A	19920729	199305	B
EP 526189	A3	19930901	EP 92306933	A	19920729	199508	
US 5581668	A	19961203	US 92920393	A	19920727	199703	
EP 526189	B1	19991027	EP 92306933	A	19920729	199950	
DE 69230203	E	19991202	DE 630203	A	19920729	200003	
			EP 92306933	A	19920729		
JP 3093342	B2	20001003	JP 91190336	A	19910730	200051	

Priority Applications (No Type Date): JP 91190342 A 19910730; JP 91190336 A 19910730; JP 91190337 A 19910730
Cited Patents: No-SR.Pub; 2.Jnl.Ref; EP 366250; EP 426036; JP 62247416; JP 63246268
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 526189	A2	E	38	G06K-015/00	
Designated States (Regional): DE FR GB IT					
EP 526189	A3			G06K-015/00	
US 5581668	A		36	G06F-015/00	
EP 526189	B1	E		G06K-015/00	
Designated States (Regional): DE FR GB IT					
DE 69230203	E			G06K-015/00	Based on patent EP 526189
JP 3093342	B2		35	B41J-029/38	Previous Publ. patent JP 5032018

Abstract (Basic): EP 526189 A
The **data processing** appts. has a main controller and print controller including power sensing control. The print controller

performs transition of power saving states to obtain an optimal state on the basis of transfer of data from the main controller. The data processor performs various control operations independently of the state transitions.

The states are an active mode for supplying a print contol power to allow printing, a ready mode for inhibiting to supply a printer drive power and allowing printer control except for printing and a sleep mode for inhibiting CPU control for performing printer control and changing from ready mode. A clock supplied to a CPU performs printer control so that changes of modes can be set.

ADVANTAGE - Achieves power securing of overall system.

Dwg.2

Title Terms: PRINT; CONTROL; POWER; SAVE; CONTROL; INK; JET; PRINT; PERFORMANCE; TRANSITION; POWER; SAVE; STATE; PRINT; CONTROL; OPERATE; INDEPENDENT; STATE; TRANSITION; COMPUTER

Derwent Class: P75; T04

International Patent Class (Main): B41J-029/38; **G06F-015/00** ; G06K-015/00

International Patent Class (Additional): **G06F-001/32** ; **G06F-003/12**

File Segment: EPI; EngPI

Set	Items	Description
S1	384577	WIRELESS OR WIRE()LESS OR RADIO? OR (ELECTROMAGNETIC? OR RADIO)()WAVE? OR RF OR IR OR INFRARED OR INFRA()RED OR BLUETOOTH
S2	169364	(MOBILE OR PORTABLE OR CELLULAR OR CELL)(2W)(DEVICE? OR TELECOMMUNICATION? OR COMPUTER? OR PHONE? OR TELEPHONE? OR TERMINAL) OR CELLPHONE? OR CELL()PHONE? OR LIMITED()CAPABILITY()DEVICE? OR CELLULAR
S3	9152	SHORT(5N)RANGE
S4	723730	STORE? ? OR STORAGE OR MEMORY OR PROM OR RAM OR ROM OR REPOSITORY? OR BUFFER? OR CACHE?
S5	324195	SERVER? OR PROCESSOR? OR HOST? OR PROVIDER?(N)RESOURCE? OR REPOSITOR? OR REMOTE()STORAGE OR NODE?
S6	82184	PDA OR PALM OR BLACKBERRY OR VIZOR OR PALMTOP OR HANDHELD OR HAND()HELD OR NEWTON OR PERSONAL()DIGITAL()ASSISTAN? OR NOTEBOOK? OR NODE()PCU OR PALMPILOT OR PALM()(PILOT? OR TOP OR TOPS) OR ORGANIZER? OR INFORMATION()TERMINAL?
S7	160	S1 (S) S2 (S) S3 (S) S4 (S) S5
S8	84	S6 (S) S3 (S) S4 (S) S5
S9	181	S7 OR S8
S10	69	S9 AND IC=(G06F? OR G10K? OR G10L?)

File 348:EUROPEAN PATENTS 1978-2004/May W01
(c) 2004 European Patent Office
File 349:PCT FULLTEXT 1979-2002/UB=20040506,UT=20040429
(c) 2004 WIPO/Univentio

09/382,357 - 6,394,371
60/166,548
60/159,271
60/154,900

10/5,K/18 (Item 18 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00989221

Charge life of batteries in plural-unit computer systems

Lebensdauer der Ladung von Batterien in Rechnersystemen mit mehreren Funktionseinheiten

Duree de vie de charge de batteries dans des systemes d'ordinateur avec plusieurs unites

PATENT ASSIGNEE:
Hewlett-Packard Company, (206030), 3000 Hanover Street, Palo Alto, California 94304, (US), (applicant designated states: AT;BE;CH;DE;DK;ES;FI;FR;GB;GR;IE;IT;LI;LU;MC;NL;PT;SE)
INVENTOR:
Proudler, Graeme John, 5 Touchstone Avenue, Stoke Gifford, Bristol BS12 6XQ, (GB)
LEGAL REPRESENTATIVE:
Coker, David Graeme et al (29393), Hewlett-Packard Limited Intellectual Property Section, Building 2, Filton Road, Bristol BS12 6QZ, (GB)

PATENT (CC, No, Kind, Date): EP 895151 A1 990203 (Basic)
APPLICATION (CC, No, Date): EP 97305682 970729;
PRIORITY (CC, No, Date): EP 97305682 970729
DESIGNATED STATES: AT; BE; CH; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI; LU; MC; NL; PT; SE
INTERNATIONAL PATENT CLASS: **G06F-001/28**

ABSTRACT EP 895151 A1

A computer system comprises a plurality of cooperating units (M1 to M7) each connected to a respective battery pack (B1 to B7). Operation of the system may include the steps of: determining an estimate of the remaining charge in each battery pack; determining an estimate of the future power or energy usage requirement of each unit; determining, from the estimated remaining charges and the estimated future power or energy usage requirements, an association between each unit and a respective one of the battery packs which would increase the period before any of the battery packs reaches the end of its charge life; and advising the user on altering the connections of the units to the battery packs in accordance with the determined association. In the case where at least a first one of the units (MA) is connectable to and disconnectable from the battery pack (BB) of a second one of the units (MB), operation of the system may include the steps of: determining, from the estimated remaining charges and the estimated future power or energy usage requirements, whether the first unit should draw energy from its battery pack and/or from the battery pack of the second unit so as to increase the period for which the first and second units can both be powered by their respective battery packs should the first unit be disconnected from the battery pack of the second unit; and causing the first unit to draw energy in accordance with that determination.

ABSTRACT WORD COUNT: 248

LEGAL STATUS (Type, Pub Date, Kind, Text):
Withdrawal: 20000419 A1 Date application deemed withdrawn: 19990804
Application: 990203 A1 Published application (A1with Search Report ;A2without Search Report)

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	9905	1101
SPEC A	(English)	9905	3045
Total word count - document A			4146
Total word count - document B			0
Total word count - documents A + B			4146

INTERNATIONAL PATENT CLASS: **G06F-001/28**

...SPECIFICATION is envisaged that, in the future, computer systems will become smaller and more modular, so-called ultra- **portable computers** . Examples of the modular units might be a **processor** unit, a **memory** unit, an input unit, a display or visor unit, a camera unit, a telephone unit, a refrigerator...

...It is also envisaged that some or all of these units will communicate with one another using **short - range radio** links, **infrared** links or other **wireless** links, although some of the units may be connected by wires, at least temporarily.
Depending upon the...

10/5,K/19 (Item 19 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00711606
Start code detector for image sequences
Detektor fur den Startcode von Bildsequenzen
Detecteur de code de depart pour sequences d'images
PATENT ASSIGNEE:
DISCOVISION ASSOCIATES, (260273), 2355 Main Street Suite 200, Irvine, CA 92714, (US), (Proprietor designated states: all)
INVENTOR:
Wise, Adrian Philip, 10 Westbourne Cottages, Frenchay, Bristol BS16 1NA, (GB)
Sotheran, Martin William, The Ridings, Wick Lane, Stinchcombe, Dursley, Gloucestershire GL11 6BD, (GB)
Robbins, William Philip, 19 Springhill, Cam, Gloucestershire GL11 5PE, (GB)
Finch, Helen Rosemary, Tyley, Coombe, Wotton-Under-Edge, Gloucester. GL12 7ND, (GB)
Boyd, Kevin James, 21 Lancashire Road, Bristol BS7 9DL, (GB)
LEGAL REPRESENTATIVE:
Vuillermoz, Bruno et al (72791), Cabinet Laurent & Charras B.P. 32 20, rue Louis Chirpaz, 69131 Ecully Cedex, (FR)
PATENT (CC, No, Kind, Date): EP 674443 A2 950927 (Basic)
EP 674443 A3 951213
EP 674443 A3 981223
EP 674443 B1 010509
APPLICATION (CC, No, Date): EP 95301301 950228;
PRIORITY (CC, No, Date): GB 9405914 940324
DESIGNATED STATES: AT; BE; CH; DE; FR; GB; IE; IT; LI; NL
RELATED DIVISIONAL NUMBER(S) - PN (AN):
EP 891089 (EP 98202149)
(EP 98202154)
EP 884910 (EP 98202132)
EP 891088 (EP 98202133)
EP 897244 (EP 98202134)
EP 901286 (EP 98202135)
EP 901287 (EP 98202166)
EP 896473 (EP 98202170)
EP 896474 (EP 98202171)
EP 896476 (EP 98202174)
EP 896475 (EP 98202172)
INTERNATIONAL PATENT CLASS: H04N-007/24; **G06F-013/00** ; **G06F-009/38**
CITED PATENTS (EP B): EP 288219 A; EP 460751 A; EP 506294 A; EP 551672 A; EP 572263 A; EP 572766 A; EP 576749 A; EP 577329 A; EP 602621 A; WO 94/25935 A; GB 2269070 A; US 4622585 A; US 4823201 A; US 5173695 A; US 5253053 A
CITED REFERENCES (EP B):
KUN-MIN YANG ET AL: "VLSI ARCHITECTURE DESIGN OF A VERSATILE VARIABLE LENGTH DECODING CHIP FOR REAL-TIME VIDEO CODECS" PROCEEDINGS OF THE REGION 10 CONFERENCE ON COMPUTER AND COMMUNICATI SYSTEMS (TENCON), HONG KONG, 24 - 27 SEPT., 1990, vol. 2, 24 September 1990, pages 551-554, XP000235934 INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS

Detailed Description
Claims
Fulltext Word Count: 13205

English Abstract
A system and method of selecting messaging settings on a messaging client are provided. A display configured to operate in conjunction with the messaging client displays a compose screen that includes a message portion and a messaging settings portion when an outgoing message is to be composed on the messaging client. Messaging settings selected to control message characteristics of the outgoing message are displayed in the messaging settings portion of the compose screen.

French Abstract
L'invention concerne un systeme et un procede de selection de parametres de messages sur un client de messagerie. Un affichage configure de maniere a fonctionner en conjonction avec un client de messagerie affiche un ecran de redaction qui comprend une partie message et une partie parametres de messagerie lorsqu'un message de sortie doit etre redige sur le client de messagerie. Les parametres de messagerie selectionnes pour controler les caracteristiques de message du message sortant sont affiches dans la partie de parametres de messagerie de l'ecran de redaction.

Legal Status (Type, Date, Text)
Publication 20040429 A2 Without international search report and to be republished upon receipt of that report.

Main International Patent Class: **G06F-009/44**
Fulltext Availability:
Detailed Description

Detailed Description
... The mobile device 600 includes a transceiver 61 1, a microprocessor 638, a display 622, non-volatile **memory** 624, **RAM** 626, auxiliary input/output (1/0) devices 628, a serial port 630, a keyboard 632, a speaker 634, a microphone 636, a short-range **wireless** communications sub-system 640, and other device'sub-systems 6,42. The transceiver 611 includes transmit and...

...Rx) 612, a transmitter (Tx) 614, one or more local oscillators (LOs) 613, and a digital signal **processor** (DSP) 620. Within the non-volatile **memory** 624, the **mobile device** 600 includes a plurality of software modules 624A-624N that can be executed by the microprocessor 638...

10/5,K/60 (Item 40 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00807463 **Image available**
AUDIO PLAYER WITH CODE SENSOR
LECTEUR AUDIO POURVU D'UN CAPTEUR DE CODE
Patent Applicant/Assignee:
SILVERBROOK RESEARCH PTY LTD, 393 Darling Street, Balmain, New South Wales 2041, AU, AU (Residence), AU (Nationality), (For all designated states except: US)
Patent Applicant/Inventor:
LAPSTUN Paul, 13 Duke Avenue, Rodd Point, New South Wales 2046, AU, AU (Residence), NO (Nationality), (Designated only for: US)
KING Tobin Allen, Unit 2, 125 Cremorne Road, Cremorne, New South Wales 2090, AU, AU (Residence), AU (Nationality), (Designated only for: US)
WALMSLEY Simon Robert, Unit 3, 9 Pembroke Street, Epping, New South Wales 2121, AU, AU (Residence), AU (Nationality), (Designated only for: US)
SILVERBROOK Kia, Silverbrook Research Pty. Ltd., 393 Darling Street, Balmain, New South Wales 2041, AU, AU (Residence), AU (Nationality), (Designated only for: US)

Legal Representative:
SILVERBROOK Kia (agent), c/o Silverbrook Research Pty. Ltd., 393 Darling Street, Balmain, New South Wales 2041, AU,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200141047 A1 20010607 (WO 0141047)
Application: WO 2000AU1459 20001127 (PCT/WO AU0001459)
Priority Application: AU 994392 19991201
Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Main International Patent Class: G06K-007/10
International Patent Class: **G06F-017/60**
Publication Language: English
Filing Language: English
Fulltext Availability:
Detailed Description
Claims
Fulltext Word Count: 5886

English Abstract
An audio player (10) is provided with an image sensor (16) capable of imaging invisible infrared tags (78) on a substrate (70). The tags (78) encode identity data which is directly or indirectly associated in a computer system with one or more audio clips.The audio player (10) can be used to select and play audio clips. It acquires tag identity data via the image sensor (16), transmits it to the computer system, and downloads associated clip(s) for playback via a speaker (22).

French Abstract
L'invention concerne un lecteur audio (10) pourvu d'un capteur d'image (16) capable de mettre en image des etiquettes infrarouges invisibles (78) sur un substrat (70). Ces etiquettes (78) codent des donnees d'identite qui sont directement ou indirectement associees dans un systeme informatique avec un ou plusieurs audioclips. Ce lecteur audio (10) peut etre utilise pour choisir et pour lire des audioclips. Il acquiert des donnees d'identite d'etiquette via le capteur d'images (16), les transmet au systeme informatique et telecharge le ou les clip(s) associes afin de les reproduire au moyen d'un haut-parleur (22).

Legal Status (Type, Date, Text)
Publication 20010607 A1 With international search report.
Publication 20010607 A1 Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.
Examination 20010823 Request for preliminary examination prior to end of 19th month from priority date

International Patent Class: **G06F-017/60**
Fulltext Availability:
Claims

Claim
... be used. The processor unit 81 communicates with the other components via a shared bus

49 The **processor** , the bus, and any number of other components may be integrated into a single chip. As indicated...

...chip, they may also include the audio decoder, the audio DAC, the tag image sensor, and the **memory** . The analog **radio** transceiver is unlikely to be integrated in the same chip, but may be integrated in the same package. Since the player incorporates a dedicated audio decoder 41,

the **processor** only needs to be powerful enough to control and coordinate the other components. Alternatively, the audio decoder may be omitted, and a more powerful **processor** can used to decode the compressed audio in software. The transceiver 40 is typically a **short - range radio** transceiver. It may support any of a number of **wireless** transmission standards, including **Bluetooth** /lEEE 802.15, IEEE 802.1 1, HomeRF/SWAP, HWERLAN, and OpenAir. **Bluetooth** /IEEE 802.15, IEEE 802 1997, FIRPERLAN, OpenAir, and HomeRF/SWAP all support transmission rates in the...

...HIPERLAN also supports a transmission rate of 24Mbit/s in an alternative mode. Beyond these currently-supported **wireless** LAN (WLAN) standards, next-generation WLAN standards promise to support transmission rates of 100 Mbit/s and...

...The player may alternatively be connected to the base station by cable, or may utilize a non- **radio** -frequency **wireless** transport, such as **infrared** . IEEE 802.1 1, for 1 5 example, optionally utilizes an **infrared** transport. IrDA also utilizes an **infrared** transport. The player may alternatively or additionally contain a **mobile telephone** transceiver for longer-range communication with a netpage **server** via a **mobile telephone** network. If the transceiver supports a third-generation 'always-on' packet-switched connection, then the player may player incorporates a longer-range transceiver, then it may act as a netpage base station for **wireless** netpage pens and other netpage sensing devices. Assuming 12:1 MP3 compression, the receiver must support a data rate of 118 Kbit/s. This is clearly well within the minimum capabilities of the various **wireless** transmission standards described above. The PCB 14 may also be provided with a microphone 55 on its...

...described in our co-pending patent application PCT/AUOO/00565. The tags have preferably been printed using **infrared** absorptive inks. The PCB **processor** chips 36 includes all of the functional features of a netpage pen as discussed in our co...

...via aerial 42 to a netpage base station, such as a netpage printer or a netpage-enabled **mobile telephone** as disclosed in our co-pending application PCT/AUOO/01453. Handshake and authentication between the base station...

...Communication may be via any netpage base station, such as netpage printer, or via a netpage enabled **mobile telephone** (see co-pending application PCT/AUOO/01453. The netpage system determines that the decoded information equates to...

...was transmitted. In the preferred form the audio file or files are downloaded in their entirety and **stored** in the audio player's **memory** 38. The audio file may comprise one song or track or multiple songs or tracks. Alternatively a header file may be provided with an index of songs or tracks with each song or track **stored** in a separate file. Preferably the audio file also includes information which identifies the song or track...

...the display 18. In use, the user may use the control buttons 28 to select any tracks **stored** in the **memory** 38. The **processor** 36 accesses the relevant portion of the **memory** , extracts the information, converts the (usually) digital format to an analogue format. Audio is routed to the...

...headphone socket, to the attached headphones or other external audio device. Audio may also be routed to **wireless** headphones via the transceiver, either directly from the base station or via the player. Digital audio is...encoding standards may be supported via suitable audio decoders, including Dolby AC-3, and RealNetworks' RealAudio. The **processor** chip 36 may provide NT3 decoding by use of software decoding or hardware decoding. Other decoding schemes...

...together with or instead of MT3 decoding. These may be implemented in hardware or software.
The internal **memory** 39 is preferably 8 MB in size, enough **storage** for approximately 9 minutes average NT3 files. Additional **storage** may be provided using user replaceable **memory** , preferably non volatile solid state **memory** . Audio files may be downloaded to such user replaceable **memory** via the audio player 10 or via a user's personal computer. Where user replaceable **memory** is provided, the **memory** 39 provided for **storage** of audio files may also be implemented in user replaceable form, i.e. the audio player itself typically will have no permanent **memory** for **storage** of audio files. In the preferred implementation the audio player downloads audio files, **stores** the file in **memory** and then plays the tracks under user control. Where the files are of - 12 significant size, downloading...

...received, rather than once it has been fully downloaded. A file played via "streaming" may still be **stored** in the **memory** 38 for later playback. The audio player optionally includes a microphone and a record button. It can...

...by anyone. When incorporating a microphone, the audio player can be configured to act as a 5 **wireless** telephone under the control of a telephony application. Since the player lacks a user interface for dialing...

...clip object in a page description, in which case clip activation is ultimately handled by the page **server** which holds the page description. Any click in the zone of the audio clip object is interpreted by the page **server** as audio clip activation. In either case the actual audio clip may be **stored** on a separate remote **server** , which may become involved in the streaming playback or download of the audio clip. The audio player can download an audio clip activated by the user into its internal **memory** before making it available for playback, or it can stream the audio clip on demand from the remote **server** in response to the user interacting with the player's playback controls. Some of the audio files ...

...by use of a counter with an initial value of 1. To prevent piracy, particularly where removable **memory** is used, the audio file **stored** may be modified to include the netpage ID of the audio player 10 to which it was...period of inactivity the player may inactivate the status display. After a longer period of inactivity the **processor** may enter a power-conserving quiescent state. Power management may be coupled with the tag sensor micro...

10/5,K/61 (Item 41 from file: 349)

00807462 **Image available**
VIEWER WITH CODE SENSOR
VISIONNEUSE AVEC DETECTEUR DE CODE
Patent Applicant/Assignee:
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Patent Applicant/Inventor:
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LAPSTUN Paul, 13 Duke Avenue, Rodd Point, New South Wales 2046, AU, AU (Residence), NO (Nationality), (Designated only for: US)
LAPSTUN Jacqueline Anne, 13 Duke Avenue, Rodd Point, New South Wales 2046 , AU, AU (Residence), AU (Nationality), (Designated only for: US)
Legal Representative:

SILVERBROOK Kia (agent), Silverbrook Research Pty. Ltd., 393 Darling Street, Balmain, New South Wales 2041, AU,
Patent and Priority Information (Country, Number, Date):
Patent: WO 20010141046 A1 20010607 (WO 0141046)
Application: WO 2000AU1454 20001127 (PCT/WO AU0001454)
Priority Application: AU 994392 19991201
Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Main International Patent Class: G06K-007/10
International Patent Class: **G06F-017/60**
Publication Language: English
Filing Language: English
Fulltext Availability:
Detailed Description
Claims
Fulltext Word Count: 9855

English Abstract
A viewer (100) is provided which senses machine-readable coded data (202), decodes the coded data (202), transmits the decoded data to a computer system, and receives in response from the computer system display data for display on a screen (102) and/or for playback via a speaker (106).

French Abstract
L'invention concerne une visionneuse (100) capable de detecter des donnees codees (202) exploitables par machine, de decoder ces donnees codees (202), de transmettre ces donnees codees a un systeme informatique et de recevoir, en reponse du systeme informatique, des donnees d'affichage destinees a etre affichees sur un ecran (102) et/ou reproduites via un haut-parleur (106).

Legal Status (Type, Date, Text)
Publication 20010607 A1 With international search report.
Publication 20010607 A1 Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.
Examination 20010823 Request for preliminary examination prior to end of 19th month from priority date

International Patent Class: **G06F-017/60**
Fulltext Availability:
Claims

Claim
... of these co-pending applications are incorporated herein by cross-reference.
BACKGROUND
Devices such as personal computers, **personal digital assistants** and even **mobile phones** may be used to interact with audiovisual information and with computer applications which have an audiovisual interface...

...graphical user interfaces to computer systems.
SUMMARY OF INVENTION
In one broad form the invention provides a **hand held** viewing device with one or more sensors capable of sensing coded data. Images which include coded data...

...information is transmitted to a computer system which associates the decoded data with one or more files **stored** on the system, using

previously **stored** association data. The file or files are transmitted to the viewer and to the user via the...once the coded data has been sensed and transmitted may be immaterial. The viewer may also include **memory** into which a file or files, are downloaded for subsequent 0 viewing. When the viewer is lifted...186, 192 & 194, a speaker 106, volume control 108, an audio out jack I 10 and a **infrared** sensing device 112. The LCD screen 102 has a touch sensitive overlay 132. 0 The viewer 100...on the lower surface of the PCB is the optical sensor device 112 capable of detecting 5 **infrared** markings on a substrate. The sensing device 112 comprises an **infrared** LED 160 and an image sensor 162. In use **infrared** light is emitted from the LED 160 and passed through an optical guide 164 and then through...

...200x200 pixel CCD or CMOS image sensor with a nearinfrared bandpass filter. The PCB also includes a **processor** chip 170, DRAM 172; flash **ROM** 174, display controller 250 for controlling the LCD , a transceiver chip 178 and an aerial 180. In...

...320x240 RGB pixel display, the display controller 250 has an associated or embedded 0.25 Mbyte single- **buffered** or 0.5 Mbyte double- **buffered** display **memory** 18 1. A dedicated compressed video and audio decoder 171 which produces square-pixel progressivescan digital video...

...during decoding, while an MPEG-2 decoder typically uses a 16 Mbit SRAM during decoding. The decoder **memory** 179 may be dedicated to the decoder, or may be part of a **memory** 172 shared with the **processor** . The **processor** unit 175 controls and coordinates the various electronic components of the viewer. The **processor** executes software which monitors, via the sensor(s) 1 12, the identity of the underlying page and ...

...relative to the page; communicates the identity and position data to a netpage base station via the **wireless** transceiver 178; receives identity- and position-related page data from the base station via the transceiver; renders...

...user interface buttons 104 and the screen's touch sensor 132. The embedded software executed by the **processor** is **stored** in the non-volatile **memory** 174, which is typically a **ROM** and/or flash **memory** . Identity information unique to the viewer, as well as communications encryption keys, are also **stored** in non-volatile **memory** . During execution the **processor** utilizes faster volatile **memory** , typically in the form of a 256 Mbit (32 Mbyte) dynamic **RAM** (DRAM) 172. The **processor** unit 175 communicates with the other components via a shared bus 183. The **processor** 175, the bus 183, and any number of other components may be integrated into a single chip...

...the compressed video and audio decoder 171, the audio digital-to-analog converter (DAC) 173 and the **memory** 172. The analog **radio** transceiver 178 is unlikely to be integrated in the same chip, but may be integrated in the...

...193 links the buttons 104, touch sensor 132 and the LED 160 to the bus 183. The **processor** 170 is sufficiently powerful to render page content at interactive rates, i.e. at least 10 Hz a video and audio decoder. The transceiver 178 is typically a **short - range radio** transceiver. It may support any of a number of **wireless** transmission standards, including **Bluetooth** /EEEE 802.15, IEEE 802.1 1, HomeRF/SWAP, HEPERLAN, and OpenAir. BluetoothfIEEE 802.15, IEEE 802...

...HIPERLAN also supports a transmission rate of 24Mbit/s in an alternative mode. Beyond these currently-supported **wireless** LAN (WLAN) standards, next-generation WLAN standards promise to support transmission rates of 100 Mbit/s and...

...The viewer may alternatively be connected to the base station by cable, or may utilize a non- **radiofrequency** **wireless** transport, such as

infrared . IEEE 802.1 1, for example, optionally utilizes an **infrared** 0 transport. IrDA also utilizes an **infrared** transport. The lower surface of the lower casing 16 is provided with four outer feet 182 and...

...aid in keeping the surface flat near the sensing device 1 12. The sensor device 112 is **infrared** sensitive. The image sensor 162 is sensitive to **infrared** light, either inherently or by use of filters and the LED 160 emits **infrared** light, again inherently or by use of filters. The lens 168 is focused on the plane of...

...is where a substrate to be sensed will be located. The sensor device is capable of detecting **infrared** absorptive tags, such as netpage tags. For a full description of the processes involved, reference is made...

...AUOO/00565 referred to earlier. The CCD 162, the LED 160 and processing functions incorporated in the **processor** chip 170 are similar to those disclosed in the co-pending application. The device is thus capable...

...decoding netpage tags on a substrate. Image data captured by the CCD 162 is sent to the **processor** 175 and decoded to a region ID (or page ID) and tag ID. The region ID and...

...region ID and tag ID to corresponding document data which it transmits back to the device. The **processor** 180 receives the data via the aerial 180 and transceiver. The **processor** renders the data for display on the color display 102 via the display controller 250. The LCD...

...into contact with a new page, it downloads the corresponding page description from the relevant netpage page **server** . It then renders the viewer's view according to the current view transform, i.e. according to ...

...view transform. Whenever the view transform changes, the viewer transmits the view transform to the netpage page **server** responsible for the underlying page. This allows the page **server** to commence streaming dynamic objects which have come into view ...and to cease streaming dynamic objects which are no longer in view. It also allows the page **server** to provide the viewer with static objects, such as images, at a suitable resolution. As the device...

10/5,K/62 (Item 42 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00803559 **Image available**
SYSTEM AND METHOD FOR IMPLEMENTING ON-SITE ELECTRONIC PURCHASING USING USER-OPERATED TERMINALS
SYSTEME ET PROCEDE POUR LA MISE EN OEUVRE D'ACHATS ELECTRONIQUES AU MOYEN DE TERMINAUX D'UTILISATEUR
Patent Applicant/Inventor:
HWANG Ivan Chung-Shung, 13072 Stanton, Santa Ana, CA 92705, US, US (Residence), US (Nationality)
Legal Representative:
TACHNER Leonard (agent), Suite 38-E, 17961 Sky Park Circle, Irvine, CA 92614, US,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200137109 A1 20010525 (WO 0137109)
Application: WO 2000US31888 20001120 (PCT/WO US0031888)
Priority Application: US 99166548 19991119
Designated States: AL AM AU BA BG BR CA CN CZ EE GE HR HU ID IL IS JP KE KP KR KZ LK LR LT LV MD MG MK MN MW MX NO NZ PL RO RU SD SG SI SK TJ TR UA US UZ VN YU ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
Main International Patent Class: **G06F-015/16**
Publication Language: English
Filing Language: English
Fulltext Availability:
Detailed Description

Claims
Fulltext Word Count: 23883

English Abstract
A system that provides interactive multimedia based electronic purchasing services to a group of concurrent customers in a commercial site via user operated wired and wireless transaction terminals, i.e., commercial Personal Digital Assistants (PDAs). The disclosed system is comprised of a multiple-computer-based server array and a number of multi-link commercial PDAs. The invention further employs a number of unique methods for implementing interactive advertising-based, interactive payment-based, as well as customized content-based electronic purchasing services. Moreover, the invention can accommodate a plurality of concurrent customers ranging from a few to thousands, using multi-link-based workgroup server arrays that can deliver mission-critical highly-available and scaleable on-demand interactive multimedia-based electronic purchasing services in a commercial site.

French Abstract
Systeme fournissant des services d'achats en ligne a base de multimedia interactif a un groupe de clients simultanes dans un site commercial, par l'intermediaire de terminaux transactionnels a fil et sans fil, exploites par un utilisateur, c'est-a-dire des assistants numeriques personnels commerciaux (Personal Digital Assistants PDA). Le systeme de l'invention comprend un groupe de serveurs a base d'ordinateurs multiples et plusieurs PDA commerciaux a liaisons multiples. Plusieurs procedes specifiques pour la mise en oeuvre d'achats en ligne a contenu personnalise, a paiement interactif et a publicite interactive. Par ailleurs, le systeme de l'invention peut prendre en charge plusieurs clients simultanes, de quelques uns a des milliers, au moyen de groupements de serveurs de groupes de travail a liaisons multiples, pouvant fournir des services d'achats en ligne a base de multimedia interactif sur demande, extensibles, hautement disponibles et critiques, dans un site commercial.

Legal Status (Type, Date, Text)
Publication 20010525 A1 With international search report.
Publication 20010525 A1 Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.
Examination 20010927 Request for preliminary examination prior to end of 19th month from priority date

Main International Patent Class: **G06F-015/16**
Fulltext Availability:
Claims

Claim
... le LAN Links
Switches/Hubs
1[11 F
1 F I I I I
WSG Ethemet Workgroup **Server** Cluster (WSC) Etheme n Wo roup **Server** Cluster (WSC) Ethernet Link
Swftch/Hub-2
Ws
- "u Wor rou **Server** Cluster Ethernet Link Workgroup **Server** Cluster Et
SZ'crh1u4uub-1' V
I r I I 1 r I I TP-1 TP-2 TP-3 TP-4 TP-5 TP-6 TP@7 TP-8
Server Pair-3 **Server** Pair-4
.....
Z., TearnChassis 1 TeamChassis 2
DASTS: Direct Access SCSI-based TeamServers (RAIDS, hard-disks, **RAM** -disks, tapes, or optical disks) Sl: Workgroup **Server** Link-1 using SCSI-111, S2: Workgroup **Server** Link-2 using SCSI-Ifl. TeamProcessorl TeamProcessor2 TeamProcessor3 TearnProcessor4 FIG ID: Teaml ....
.....

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Kevt)oara
i Sena...

...post) (iPOS2)
FIG. 2A: Modulator Box for OS=204V (MmMV)
Audio + Video Signal
MD (74) (72) (71)
RF Signal 1 1 x 1 COMBINER MODULE
T
MD (65) MD (66) 7) MD (68)
Audio + Video...

...RS-232 Connectic
s SCR: Smart Card Reader
TS: Touch Screen
SW: CNIOS/TTL-based Switch
BTC: **Bluetooth** Chip
BP: **Bluetooth** Port
BTC
Philips 8xC52 UART
Bluetooth User InterfacE
Microcontroller BP
Devices
JUARTIUARTIUARTI
KP Special Purpose
RC I RC I RC POS Interface Device...or RS-232 Connection
SW
SCR: Smart Card Reader
TS: Touch Screen
SW: CMOSITTL-based Switch
BTC: **Bluetooth** Chip
BP: **Bluetooth** Port
Philips 8xC528 BTC
UART
Microcontroller
Bluetooth User Interfac
BP
Devices
UART UARTIUARTI
KP
RC RC RC
....
C@
MCRI TS LPRT I SCR I...

...RS-,'
S SCR: Smart Card R
TS: Touch Screen
dock/calendar
SW: CMOS/TTL-ba
12C BTC: **Bluetooth** Chil
BP: **Bluetooth** Port
Philips 8xC528 BTC
UART
Microcontroller
Bluetooth U
BP
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UARTIUARTIUARTI
KP
RC RC R7C
12C

;6 04 04
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0 04...

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CA) co
5,
Audio +Video
C/)
A@-@Ke-v-boa-UWFCU@-N,
a c: C)
@1 **RF** Signal
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U) 3 X RS422
7 V -2X-WS- 2 -' 3A
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0 N) AUDIO
R...

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X :3 @ M
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C/) =r
Signal 0 CD
C **Wireless** **RF** :6 T 0
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;0 ;U a /L -11
Wireless 2 X RS422 00 U) 2 X VUA
RS-422 -II6 M
C) AUDIO
00 CD
C **Wireless** **RF** J!F Signal 3 RAP
0 CD 0 A
Wireless is I @ T-- Uss ft M
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ACT 5 Ity"9ze 9
[ACT 6
In
C **Wireless** **RF** OF Signal
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X T WIMIO33 2-X RS422
RS422
F Signal 2 X VGA
c **Wireless** IRF
AUDIO
Wireless
RS422 8 X RS-42
ACT 7 [r XIFS--422
ACT 8
T@/CT
8881f/00SX13d 601LE/10 OM
FIG. 3A: Modulator Box for 0Sw408 (MB=408)
Audio + Video Signal
I F I F
RF Signal 17 x 1 COMBINER MODULE
A A A
I I T T
MD (69)
Audio + Video Signal
1x12 Splitter Module **RF** Signal
RF Signal **RF** S gna
mn
RS-422 ------ ARS-422 COM5
Come

RS-422
@j C' @ RS-422 COM7
'is...

...FR84;; -'TrT comio
C) CA comil
RS-422
---- -- 41
t COM12
8881f/00sfi/13d 601Lf7/10 OM
RF Signal Primary TP I FIG. 3C: WOS U
C11 Secondary TP
Legend:
KP: Keybc
U)
MCR: Ma(
PRT: Sën:;
RC: RS-4:
STB/RS-422/ **RF** RC SCR: Smz
S TS: Toud
SW: CMO
BTC: Blu(
Tuner BP: Bluet
Video signal STB: Micri...

...and TV- VGK
NTSC/PAL Monitor (audio)
....
.....
Common User-interface Devices
.....- ....
.....-.....
....
Primary TP FIG. 3D: WOP Unit (**RF** -based
RF Signal N Secondary TP
C14
Legend:
U)
x KP: Keyboard Port
MCR: Magnetic Card Reader
PRT: Serial Printer
STB/RS-422/ **RF** RC I RC RC: RS-422 or RS-232 Ports
SCR: Smart Card Reader
SW TS: Touch Screen
SW: CM0S/TTL-based Switch
BTC: **Bluetooth** Chip
BP: **Bluetooth** Port
c
o signal STB: ...based Set Top Bc
L TP: TeamProcessor
OSD Philips 8xC528 BTC
Circuit 12C--b. Microcontroller UART
BP **Bluetooth** User Interface
Devices
C C
.P .2)
U) U) IF Ai
0
a) UART UART
71 :2...
...User-interface Devices'
....
....I.....
.....
FIG. 3E: WOR Unit (Cordless) ma Secondary TP
C4
RC 0

DS/RS422/ **RF** (STl3) Solenoid-1 SW 0
LED-1 4 0
RIF Signal LED-2
Common
Video-delivery 12r...

...SD Circu BP Interfa
Video t2c Devic
0 1
0 W Charge@r SCR
Cordless Phone 2AG **Wireless** 900Mhz Power on when the portable
Base Station Base-band **Wireless** unit is enclosed and connected 4 LED's displaying the
Audio/video RS-232 inside the Docking...

...RS-232
SCR: Smart Card Rea(
SW: CMOSrrTL-basec
Philips 8xC528 TS: Touch Screen
12C Microcontroller
WBBT: **Wireless** BaseWBBR: **Wireless** Base.
A
STB: Microcontroller-b.
DS: STB-based Dockin
Fan TP: TeamProcessor
OSDIC'irctit F LED-1...

...Signal Video Signal
Solenoid-1: Hold/Relea
r---------- Solenoid-2: Hold/Relea
SPKs LCD I Purpose 13TC: **Bluetooth** Chip
Special
Ear- NTSC/ **Bluetooth** Port
MCR User **Portable** BP:
phones PAL
Device-1

--- - -------
FIG, 3F: WOR"based Userftinterface Device
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...RS@22 C)
OD
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Cl)
3 2
iACT 15
ACT 16 00
2 X RS-42
RF Sign
T@/OZ
8881f/00sfi/13d 601LE/10 OM ...
FIG. 4A: Modulator Box for OS-816 (MB...

...Audio + Video Signal
I F I I F
M MD MD MD
(58) (53) (51) (50) (41
RF Signal 29 x 1 COMBINER MODULE
Audio + Video Signal
U12 Splitter Module **RF** Signal m
C/)
co
;q0 Ethernet

i 0
0 Ethernet Ethernet A)
cr
0 0
RS-422...

...13d 60ILf7/10 OM
FIGe 4C: WOS Unit (NTSC Ethernetmbased)
All workgrouped TPs Legend
KP: Keyboard Port
RF Signal MCR: Magnetic Ca
PRT: Serial Printer
RC: RS-422 or RS
SCR: Smart Card I
STB/Etheme; **RF** TS: Touch Screen
Ethernet Module SW: CMOSITTL-bi
BTC: **Bluetooth** Ct
Tuner BP: **Bluetooth** Pod
I 12C STB: Microcontrollo
Video signal TP: TeamProcess(
OSD CoIdFire BTC
Circuit 4-12c--* Microcontroller UART
BP **Bluetooth** L
De
76
C:
CO T@
0 0
JUARTIUARTIUART LIART
Special
< > KP I RC RC RC RS...

...Unit (NTSC Ethernetwbased)
All workgrouped TPs Legend:
KP: Keyboard Port
MCR: Magnetic Card F
PRT: Serial Printer
RF Signal RC: RS-422 or RS-2%
SCR: Smart Card Rea
TS: Touch Screen
STB/Ethemet/ **RF** SW: CMOSITTL-basei
Ethemet Module BTC: **Bluetooth** Chip
BP: **Bluetooth** Port
Tuner STB: Microcontroller-b
TP: TeamProcessor
12C
Video signal
LO
OSD ColdFire BTC
Circuit 4--12C-* Microcontroller UART
BP **Bluetooth** 1
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C:
2)
V) IF
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UART UART UART
< > P
RC RC RC
IN
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...audio)
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Common User-interface Devices
. . . . . .
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FIG, 4E: WOR Unit (Cordless), E workgrouped TPsI
W
DS/RS422/ **RF** (STB) Ethernet Module
Solenoid-1 Philips 8xC528
LED-1 Microcontroller LIART
LED-2
RF Signal
Common
Video-delivery tl2C
Link RFA UART
RC
Cordless Phone Power on when the portable
(@51...Safe P
erver Pair Multi L
(S
WSA Li
User Intera
L

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FIG. 5B: mmnode **Server** Cluster Based Onsite System
Part 1: Main Processing Unit using Part III: PC-based Commercial **PDA** -1
Multi- **Node** **Server** Clusters
Common
User
Serve.71 PC-based common li Interface
Devices
Set-Top-Box-1
Bluetooth link
Server -2 Network ink r. co L- - - - - - - - - - - - - - - - - - - -
0
AMh
J4
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0 Part III: PC-based Commercial **PDA** .n
z
(L
Common
User
etwo n PC-based V Interface
Set-Top-Box-n Devices
A
Server -m tooth link
V
L- L

FIG. 5C: Multimber **Server** Array-Based-Onsite System

Part 1: Main Processing Unit using Part III: PC-based Commercial **PDA** -1
Multi-tier **Server** Array
Common
Load Balancer- User
Server Cluster etwor PC-based Interface
Set-Top-Box-1 Devices
@oth link
Application
Server -1 L -
co
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6.
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Part III: PC-based Commercial **PDA** -n
0 CL
Application 4,
Server -m z Common
User
Ne ce
PC-based V Devices
Set-Top-Box-n
Bluetooth link
DataBase
Server Cluster
- -
L----------
FIG. 5D: Workgroup **Server** Cluster Based Onsite System
Part 1: Main Processing Unit usin Part III: Commercial **PDA** -1 to **PDA** -
Multi-link- comn
@Links@ TeamProcessor W
n
J2 Fail-Safe Pair-1 based
0 J3 links (VGA...

...eamProcessor
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Fail-Safe Pair-ml Spec
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[@Mrt III: Commercial **PDA** -1 to **PDA** .. ..
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U) TeamProcessor w
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CL Fail-Safe Pair-1...

...links
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FIG. 6A: StorePDA and StorePDA Transceiver
StorePDA StorePDA Transceivii..
a r x Orbital
LCD2041 Low cost
IR Emitters C 20 x 4 lines **IR** Emitters version o
Long **range** + Long **range** + Z8 or
Short range Short r Z8 Plus
Serial E2PROM **IR** Receiving
8kx8 bits (24LC64)
IR Receiving or Module
Module I C 16kx8 bits PNA4614M
PNA4614M Z861.73/72 (24LC128)
U RC Keypad...

...Battery aind 8kx8 bits (24L(
rcu@
Charging c it or
16kx8 bits (24U
FIGe 6B: iTVD Unit (**RF** =based)
Primary Secondary T
RF Signal
STB/RS-422/ **RF** RC RC
L SW
Tuner BTC
UART
Video Isignal 12C BP
Blueto(
OSD 12C-+ ps 8xC528 Usei...

...RC: RS-422 or RS-232 Ports
NTSCIPAL-based TV
SW: CMOSrrTL-based Switch
with audio
BTC: **Bluetooth** Chip
BP: **Bluetooth** Port
STB: Microcontroller-based Set T(
TP: TeamProcessor
Common User-interface devices
....I..... ..
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/41
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iLCD device-1...
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Of E
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LL U)
Le-gend:
FIG. 6Q: WOS Unit (**RF** -based) KP: Keyboard Port
MCR: Magnetic Card R(
PRT: Serial Printer
Primary TP Secondary TP RC: RS-422 or RS-232
SCR: Smart Card Readi
TS: Touch Screen
RF Signal SW: CMOSrFTL-based
I I BTC: **Bluetooth** Chip
STBIRS-422IRF RC R BP: **Bluetooth** Port
SW STB: Microcontroller-ba:
Tuner BTC TP: TeamProcessor
UART
Video signal 12C BP **Bluetooth**
ps 8xC528 ....
.....
Microcontroller
UART
0torePDA
IR
Transceiver
Cn
co
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UARTIUARTIU I JAPT
KP
< > RC I RC R
....
....

PRT SCR
Multi-purpose...

10/5,K/63 (Item 43 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00794295 **Image available**
EVENT MONITORING AND CLOSED-LOOP RESPONSE SYSTEM
SYSTEME DE CONTROLE D'EVENEMENTS ET DE REPONSE EN BOUCLE FERMEE
Patent Applicant/Assignee:
WATCHWIRE INC, 7 Central Street, Arlington, MA 02476, US, US (Residence), US (Nationality)
Inventor(s):
KAMAN Charles H, 274 Dedham Street, Newton Highlands, MA 02461, US,
FIORENTINO Richard D, 43 Aaron Way, Carlisle, MA 01741, US,
SAMPSON Louis T, 31 Central Street, Arlington, MA 02174, US,
SAMPSON Wells A, 340 Acton Street, Carlisle, MA 01741, US,
SAMPSON Richard L, 8 Sheffield Road, Winchester, MA 01890, US,
LEATHERMAN James A, 657 Worcester Street, Apt. 1807, Southbridge, MA 01613, US,
Legal Representative:
SAMPSON Richard L Jr (agent), 50 Congress Street, Boston, MA 02109, US,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200127787 A1 20010419 (WO 0127787)
Application: WO 2000US26535 20000927 (PCT/WO US0026535)
Priority Application: US 99159271 19991013; US 2000175664 20000112; US 2000670224 20000925
Designated States: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Main International Patent Class: **G06F-015/173**
Publication Language: English
Filing Language: English
Fulltext Availability:
Detailed Description
Claims
Fulltext Word Count: 14810

English Abstract
A system (20) and method is provided for automatically monitoring events occuring at devices (22) such as web servers (90) and websites (90), responding, and providing closed-loop response verification. The system (20) and method automatically identifies events, implements pre-specified actions in response thereto, and verifies that information regarding events has been successfully communicated. Once an event is detected and notification of at least one respondent has been completed, the system (20) awaits further information to indicate that the respondent (26) has received notification and/or has or will taken corrective action. The notification may be escalated to additional respondents (26) until some respondent (26) commits to take such corrective action. The present invention thus helps ensure that every event is recognized and any reaction is noted and the entire sequence of actions recorded. The system also includes supporting infrastructure to maintain and analyze event history, to preserve event information and to disseminate the information to clients (22). The system (20) and method is implemented in a self-provisioned website to provide an automated, cost-efficient service

that is user controlled, flexible, and scalable.

French Abstract

L'invention concerne un systeme et un procede destines a controler automatiquement des evenements se produisant sur des dispositifs tels que des serveurs Web et des sites Web, a repondre et a proceder a une verification de reponses en boucle fermee. Le systeme et le procede identifient automatiquement des evenements, executent des actions prespecifiees en reponse a ceux-ci, et verifient que les informations relatives aux evenements ont ete transmises avec succes. Une fois qu'un evenement est detecte et qu'une notification d'au moins un repondant a ete executee, le systeme attend d'autres informations pour indiquer que le repondant a recu une notification et/ou a execute ou va executer une action corrective. La notification peut etre etendue a d'autres repondants jusqu'a ce qu'un repondant s'engage a executer une telle action corrective. La presente invention contribue ainsi a assurer que chaque evenement est reconnu, que toute reaction est notee et que toute la sequence d'actions est enregistree. Le systeme comprend egalement une infrastructure de soutien destinee a actualiser et a analyser l'historique des evenements, afin de preserver les informations d'evenements et de disseminer les informations vers les clients. Le systeme et le procede sont mis en oeuvre dans un site Web auto-approvisionne pour fournir un service automatique et rentable lequel est gere par l'utilisateur, souple et evolutif.

Legal Status (Type, Date, Text)
Publication 20010419 A1 With international search report.
Publication 20010419 A1 Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.
Examination 20010809 Request for preliminary examination prior to end of 19th month from priority date
Main International Patent Class: **G06F-015/173**
Fulltext Availability:
Claims

Claim

... to prevent or mitigate consequential losses.
Additionally, recognizing the central role played by computers and the information **stored** in them, the growing and intimate interaction of information support equipment (computers and telecommunications) with humans, and...

...to climb to $43.7 billion from $22 billion in 1999. Within this segment, the market for **hosting** and related network services is projected to grow from $2 billion in 2000 to $14.6 billion...

...intense competitive pressures, and increasing dependence on electronic technology. Currently, several methods exist for monitoring downtime of **servers** , websites, and networking equipment, ranging from relatively inexpensive stand-alone software packages, to sophisticated in-house proprietary...monitored objects, including electronic, electro-mechanical, or software implemented components such as network devices (e.g., computers, **servers** , routers), systems, websites, facsimile machines, webcams, alarm systems, etc., as set forth in greater detail herein. The...

...and/or unified messaging, as defined herein. The term 'computer' refers to any device incorporating a microprocessor (**processor**), including stand-alone general purpose machines commonly known as PCs or workstations, and embedded devices. The term 'embedded' device refers to a device having a **processor** within it and in some cases

limited user I/O (input and/or output), but lacking a...

...a large display and full keyboard typically associated with PCs. Examples of embedded devices include web enabled **cell phones** , webcams, etc. As used herein, the term 'unified messaging' includes any ...including format) available now or hereafter including the Internet (email, HTTP, HTTPS, FTP, voice over IP, etc.), **wireless** web, POTS (Plain Old Telephone Service), **wireless** telephone (**cellular** , PCS .(Personal Communications Service) including messaging, etc.), satellite,, Cable (CATV), DSL (Digital Subscriber Line) Internet telephone, paging (1-way and 2-way including short message service), local/private computer network 9 (LAN,WAN), private **radio** , home networking (over standard Ethernet, power lines, phone lines or **short - range radio**), and voice response systems (automated voice recognition and generation which may use any type of phone connection), or combination thereof. The term 'database', as u@sed herein, refers to any type of data **store** , including both application-specific **storage** structures and conventional databases, such as implemented using conventional database programs such as DB2Tm available from Microsoft...

...them, changing respondents, and/or changing data or other instructions related to the services desired. The system **stores** and tracks all service changes. The monitoring services provided by the system 20 of the present invention include monitoring for event(s) such as a failed web **server** , automatically notifying a respondent(s) of the event(s), and completing the scenario (e.g., closing the...any other element of a user's communication infrastructure may also be examined, including telephone systems, email **servers** , fax machines, networks, and webcams. Moreover, additional equipment, such as alarm systems, personnel access systems, and even...

...these pages (e.g., pricing information) may also be monitored. The ability of the user's email **server** to send, receive, forward, and/or autoreply to email may also be checked. In additional embodiments, ability...

...In such an embodiment, system 20 may monitor the availability of the company's network, including network **servers** 21, routers (not shown), as well as the presence of devices (e.g., PCs) 23 on the network. In addition to checking the operation of webcams, the system 20 may **store** images captured by a webcam and/or forward them to a respondent 26. Although the foregoing includes...application service provider (ASP) for re-sellers and installers of devices (e.g., providers of computers, 14 **serversf** networksr telecommunications gear, and others). System 20 will enable these re-sellers and installers to conveniently offer...

...present invention may be used to monitor emergency signals such as 1911' calls from devices (e.g., **wireless** telephones) equipped with GPS (Global Positioning System) receivers. System 20 may then incorporate the physical location of...

...used to monitor nominally any measurable parameter. Additional examples include

monitoring devices commonly associated with the Tank **Storage** (underground **storage** tanks); Environmental (HVAC); Process Control (fieldbus **nodes** including Ethernet); Power (meter reading done via a data network); Delivery (FedEx@, etc. using commonly available **wireless** web microprocessors); Vending machine industries; and substantially any application in which an abnormal condition may require intervention...

10/5,K/64 **(Item 44 from file: 349)**
DIALOG(R)File 349:PCT FULLTEXT

00788811 **Image available**
SYSTEM AND METHODS FOR IMPLEMENTING E-COMMERCE SERVICES
SYSTEME ET PROCEDES DE MISE EN OEUVRE DE SERVICES DE COMMERCE ELECTRONIQUE
Patent Applicant/Inventor:
HWANG Ivan Chung-Shung, 13072 Stanton, Santa Ana, CA 92075, US, US (Residence), US (Nationality)
Legal Representative:
TACHNER Leonard (agent), 17961 Sky Park Circle, Suite 38-E, Irvine, CA 92614, US,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200122325 A1 20010329 (WO 0122325)
Application: WO 2000US25986 20000920 (PCT/WO US0025986)
Priority Application: US 99154900 19990920
Designated States: AL AM AU BA BG BR CA CN CZ EE GE HR HU ID IL IS JP KE KP KR KZ LK LR LT LV MD MG MK MN MW MX NO NZ PL RO RU SD SG SI SK TJ TR UA UZ VN YU ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
Main International Patent Class: **G06F-017/60**
Publication Language: English
Filing Language: English
Fulltext Availability:
Detailed Description
Claims
Fulltext Word Count: 25498

English Abstract
An interactive advertising-based transaction-enabling network system and methods for implementing user-authenticated E-Commerce services. The network system comprises a plurality of "online" web servers (30) that are accessible via public "online" user-interface units, such as PC's (1000, 3000), TV's (2000), PDA's, and cell phones (1800, 3500), and "onsite" servers that are accessible via private "onsite" links using "onsite" user-interface units at commercials sites. The system further comprises a number of server-based apparatuses, all of which construct an "online" data center that communicates with a plurality of online and onsite servers.

French Abstract
L'invention concerne un systeme reseau interactif de transactions basees sur la publicite, et des procedes de mise en oeuvre de services de commerce electronique pour client authentifie. Ce reseau systeme comprend une pluralite de serveurs (30) web "en ligne" qui sont accessibles par l'intermediaire d'unites d'interface utilisateur publiques "en ligne" comme les ordinateurs personnels (1000, 3000), les televisions (2000), les assistants numeriques personnels et les telephones cellulaires (1800, 3500); et des serveurs "sur site" accessibles via des liaisons privees "sur site" au moyen d'unites d'interface utilisateur placees sur les sites commerciaux. Le systeme comprend egalement plusieurs appareils de recherches qui, ensemble, forment un centre de donnees "en ligne" communiquant avec une pluralite de serveurs "en ligne" et "sur site".

Legal Status (Type, Date, Text)
Publication 20010329 A1 With international search report.

Examination 20010823 Request for preliminary examination prior to end of 19th month from priority date

Main International Patent Class: **G06F-017/60**
Fulltext Availability:
Detailed Description

Detailed Description
... 2PROMf IR emitters for long and short range, an IR receiving module. It can communicate with the **handheld** unit via IR to receive E-Lead data real time and **store** them in the E 2PROM **memory** . It is also equipped with modem chipset, which allows E-Lead data to be transferred to the modem **server** installed inside the inventive system, receives descriptive and advertising data from the modem **server** and **stores** them in the E2PROM **memory** . It can further transfer the desired descriptive and advertising data to the **handheld** unit for display based on user's request.

THE OVERALL IMPLEMENTATION OF THE PRESENT INVENTION
As shown...

10/5,K/65 (Item 45 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
(c) 2004 WIPO/Univentio. All rts. reserv.

00781861
SYSTEM AND METHOD FOR COLLECTING FINANCIAL TRANSACTION DATA
SYSTEME ET PROCEDE DE COLLECTE DE DONNEES DE TRANSACTIONS FINANCIERES
Patent Applicant/Assignee:
NOKIA CORPORATION, Keilalahdentie 4, FIN-02150 Espoo, FI, FI (Residence), FI (Nationality)
NOKIA INC, USA IPR Office, 6000 Connection Drive, Irving, TX 75039, US, US (Residence), US (Nationality), (Designated only for: LC)
Inventor(s):
MAKIPAA Mikko, Ilmarinkatu 12 B 28, FIN-00100 Helsinki, FI,
IMMONEN Olli, Tuohuskuia 16 A 5, FIN-00670 Helsinki, FI,
Legal Representative:
BRUNDIDGE Carl I (et al) (agent), Antonelli, Terry, Stout & Kraus, LLP, Suite 1800, 1300 North Seventeenth Street, Arlington, VA 22209, US,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200114995 A2 20010301 (WO 0114995)
Application: WO 2000IB1163 20000823 (PCT/WO IB0001163)
Priority Application: US 99382354 19990824
Designated States: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Main International Patent Class: **G06F-017/60**
Publication Language: English
Filing Language: English
Fulltext Availability:
Detailed Description
Claims
Fulltext Word Count: 11135

English Abstract

French Abstract

Legal Status (Type, Date, Text)
Publication 20010301 A2 Without international search report and to be republished upon receipt of that report.
Examination 20010719 Request for preliminary examination prior to end of 19th month from priority date
Declaration 20020906 Late publication under Article 17.2a
Republication 20020906 A2 With declaration under Article 17(2)(a); without abstract; title not checked by the International Searching Authority.
Declaration 20020906 Late publication under Article 17.2a
Correction 20030619 Corrected version of Pamphlet: Declaration under Article 17(2)(a) added (1 page)
Republication 20030619 A2 With declaration under Article 17(2)(a); without abstract; title not checked by the International Searching Authority.

Main International Patent Class: **G06F-017/60**
Fulltext Availability:
Detailed Description

Detailed Description
... providing electronic commerce, such as entities operating on IP networks.

The transaction provider 12 may include a **server** with a database which manages the generation of electronic receipts by the transaction provider in response to...

...nature and may be a smart card, a mobile terminal including a wireless telephone or short range **wireless** communication link, such as the proposed **Bluetooth** specification, a **PDA** , etc. The user device 14 typically contains a **processor** and associated **memory** and the aforementioned communication capability I 0 providing communications over links 16 and 20.

The transaction provider...

10/5,K/66 (Item 46 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00764607 **Image available**
SECURE, ACCOUNTABLE, MODULAR AND PROGRAMMABLE SOFTWARE TRAC
LOGICIEL TRAC PROGRAMMABLE, MODULAIRE, UTILISABLE ET SECURISE
Patent Applicant/Assignee:
KLINE & WALKER LLC, 11201 Spur Wheel Lane, Potomac, MD 20854, US, US (Residence), US (Nationality), (For all designated states except: US)
Patent Applicant/Inventor:
WALKER Richard C, 15000 Hunters Harbor Lane, Waldorf, MD 20601, US, US (Residence), US (Nationality), (Designated only for: US)
Legal Representative:
DONNER Irah H (et al) (agent), Hale and Dorr LLP, Suite 1000, 1455 Pennsylvania Avenue, Washington, DC 20004, US,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200078057 A1 20001221 (WO 0078057)
Application: WO 2000US16381 20000615 (PCT/WO US0016381)
Priority Application: US 99139759 19990615; US 2000176818 20000119; US 2000200872 20000501
Designated States: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW
(EA) AM AZ BY KG KZ MD RU TJ TM

```
Set.    Items   Description
S1    2394776   WIRELESS OR WIRE()LESS OR RADIO? OR (ELECTROMAGNETIC? OR R-
               ADIO)()WAVE? OR RF OR IR OR INFRARED OR INFRA()RED OR BLUETOO-
               TH
S2     956335   (MOBILE OR PORTABLE OR CELLULAR OR CELL)(2W)(DEVICE? OR TE-
               LECOMMUNICATION? OR COMPUTER? OR PHONE? OR TELEPHONE? OR TERM-
               INAL) OR CELLPHONE? OR CELL()PHONE? OR LIMITED()CAPABILITY()D-
               EVICE? OR CELLULAR
S3      31034   SHORT(5N)RANGE
S4    4101267   STORE? ? OR STORAGE OR MEMORY OR PROM OR RAM OR ROM OR REP-
               OSITORY? OR BUFFER? OR CACHE?
S5    3337782   SERVER? OR PROCESSOR? OR HOST? OR PROVIDER?(N)RESOURCE? OR
               REPOSITOR? OR REMOTE()STORAGE OR NODE?
S6     863254   PDA OR PALM OR BLACKBERRY OR VIZOR OR PALMTOP OR HANDHELD -
               OR HAND()HELD OR NEWTON OR PERSONAL()DIGITAL()ASSISTAN? OR NO-
               TEBOOK? OR NODE()PCU OR PALMPILOT OR PALM()(PILOT? OR TOP OR -
               TOPS) OR ORGANIZER? OR INFORMATION()TERMINAL?
S7          22   S1 (S) S2 (S) S3 (S) S4 (S) S5
S8          38   S6 (S) S3 (S) S4 (S) S5
S9          25   S2 (S) S3 (S) S4 (S) S5
S10         41   S7 OR S8 OR S9
S11         13   S10 NOT PY>2000
S12          6   S11 NOT PD>20000204
S13          6   RD (unique items)
File  15:ABI/Inform(R) 1971-2004/May 14
         (c) 2004 ProQuest Info&Learning
File 810:Business Wire 1986-1999/Feb 28
         (c) 1999 Business Wire
File 647:CMP  Computer Fulltext 1988-2004/May W1
         (c) 2004 CMP Media, LLC
File 275:Gale Group Computer DB(TM) 1983-2004/May 14
         (c) 2004 The Gale Group
File 674:Computer News Fulltext 1989-2004/May W1
         (c) 2004 IDG Communications
File 696:DIALOG Telecom. Newsletters 1995-2004/May 13
         (c) 2004 The Dialog Corp.
File 624:McGraw-Hill Publications 1985-2004/May 13
         (c) 2004 McGraw-Hill Co. Inc
File 621:Gale Group New Prod.Annou.(R) 1985-2004/May 13
         (c) 2004 The Gale Group
File 636:Gale Group Newsletter DB(TM) 1987-2004/May 14
         (c) 2004 The Gale Group
File 484:Periodical Abs Plustext 1986-2004/May W2
         (c) 2004 ProQuest
File 813:PR Newswire 1987-1999/Apr 30
         (c) 1999 PR Newswire Association Inc
File 613:PR Newswire 1999-2004/May 14
         (c) 2004 PR Newswire Association Inc
File  16:Gale Group PROMT(R) 1990-2004/May 14
         (c) 2004 The Gale Group
File 160:Gale Group PROMT(R) 1972-1989
         (c) 1999 The Gale Group
File 553:Wilson Bus. Abs. FullText 1982-2004/May
         (c) 2004 The HW Wilson Co
```

13/5,K/1 (Item 1 from file: 15)
DIALOG(R)File 15:ABI/Inform(R)

02035952 55388589
Security in a mobile world - Is Bluetooth the answer?
Barber, Richard
Computers & Security v19n4 PP: 321-325 2000 CODEN: CPSEDU ISSN: 0167-4048 JRNL CODE: CSC
DOC TYPE: Periodical; Feature LANGUAGE: English RECORD TYPE: Abstract

ABSTRACT: Despite clear benefits, increasing telecommunications bandwidth brings fresh concerns for security professionals, as the increases only serve to grow the number and potential ferocity of Denial of Service attacks on corporate systems via **mobile devices** . Increased capacity also serves to increase the power of the weapon that the hacker has at his disposal. The growing use of **Wireless** Application Protocol (WAP) services for **mobile phones** and other **mobile devices** has placed an ever more pressing demand for an end-to-end security solution that goes right from the **mobile device** to the **server** where information is **stored** . Any discussion about mobile technology and security cannot be complete without covering the development of **Bluetooth** . **Bluetooth** is a **short range radio** technology with a low power requirement and very small footprint intended to be embedded in other devices. It undoubtedly comes close to the point where companies and individuals can feel more comfortable about communications carried out via **mobile devices** .

GEOGRAPHIC NAMES: United States; US

DESCRIPTORS: Mobile communications networks; Bandwidths; Network security; Product development
CLASSIFICATION CODES: 5140 (CN=Security); 5250 (CN=Telecommunications systems & Internet communications); 7500 (CN=Product planning & development)
PRINT MEDIA ID: 8762

...ABSTRACT: serve to grow the number and potential ferocity of Denial of Service attacks on corporate systems via **mobile devices** . Increased capacity also serves to increase the power of the weapon that the hacker has at his disposal. The growing use of **Wireless** Application Protocol (WAP) services for **mobile phones** and other **mobile devices** has placed an ever more pressing demand for an end-to-end security solution that goes right from the **mobile device** to the **server** where information is **stored** . Any discussion about mobile technology and security cannot be complete without covering the development of **Bluetooth** . **Bluetooth** is a **short range radio** technology with a low power requirement and very small footprint intended to be embedded in other devices...

... close to the point where companies and individuals can feel more comfortable about communications carried out via **mobile devices** .

13/5,K/2 (Item 1 from file: 275)
DIALOG(R)File 275:Gale Group Computer DB(TM)

01396100 SUPPLIER NUMBER: 10691393
HP packs its palmtop pc. (Hewlett-Packard introduces the 95LX palmtop microcomputer) (product announcement)
Doherty, Richard
Electronic Engineering Times, n639, p4(2)
April 29, 1991
DOCUMENT TYPE: product announcement ISSN: 0192-1541 LANGUAGE: ENGLISH RECORD TYPE: ABSTRACT

ABSTRACT: Hewlett-Packard's (HP) 95LX **palmtop** computer includes Lotus 1-2-3, a financial calculator, and built-in communications links to microcomputers and wireless printers. The unit uses an NEC V20H **processor** and a custom Intel PC logic glue application-specific integrated circuit (ASIC). The 95LX includes 1Mbyte of **ROM** and 512Kbytes of SRAM on a motherboard the size of a credit card. Performance is 2.5 times faster than an IBM PC/XT. An optional connectivity pack allows transfer of files between the unit and a microcomputer. A **short - range** , point-and-shoot, 2,400-bps infrared link exchanges data with other 95LXs. Wireless communications will be added later in 1991. The unit runs on two AA cells that provide dozens of hours of operation. The price for the 95LX is $699, the connectivity pack goes for $99.95.

SPECIAL FEATURES: illustration; photograph
COMPANY NAMES: Hewlett-Packard Co.--Product introduction
DESCRIPTORS: Hand-Held Computers; Laptop/Portable Computer; Product Introduction
SIC CODES: 3571 Electronic computers
TICKER SYMBOLS: HWP
TRADE NAMES: HP 95LX (Personal digital assistant)--Product introduction
FILE SEGMENT: CD File 275

ABSTRACT: Hewlett-Packard's (HP) 95LX **palmtop** computer includes Lotus 1-2-3, a financial calculator, and built-in communications links to microcomputers and wireless printers. The unit uses an NEC V20H **processor** and a custom Intel PC logic glue application-specific integrated circuit (ASIC). The 95LX includes 1Mbyte of **ROM** and 512Kbytes of SRAM on a motherboard the size of a credit card. Performance is 2.5...

...PC/XT. An optional connectivity pack allows transfer of files between the unit and a microcomputer. A **short - range** , point-and-shoot, 2,400-bps infrared link exchanges data with other 95LXs. Wireless communications will be...

13/5,K/3 (Item 1 from file: 674)
DIALOG(R)File 674:Computer News Fulltext

068098
New appliances will focus on network connectivity
Byline: John Cox
Journal: Network World Page Number: 12
Publication Date: August 10, 1998
Word Count: 727 Line Count: 67

Text:
...years information appliances will become the most popular way to access the Internet, corporate networks and personally **stored** information. But it won't happen based on today's breed of palmtops, handhelds, Web boxes and...

... Many of the improvements will mimic those made in the PC world, including the addition of more **RAM** and **storage** , faster chips, and sharper displays. But the most important developments, the ones that will make these tools...

... for corporate nets, will be in the area of communications. New communications features will include vastly improved **wireless** connectivity to the World Wide Web and corporate data networks, and improved access to data while on...

... to tie the appliances much more tightly to the desktop PC and network-based corporate resources is **Bluetooth** , a **short - range radio** technology for voice and data transmission. Its backers, including Ericsson, IBM, Intel, Nokia and Toshiba, hope to create a common specification that will let **mobile devices** of all types automatically exchange information with each other, as well as with peripheral devices

and existing data networks.The **Wireless** Application Protocol Version 1.0 will also boost the communications capabilities of these devices. Now backed by...

... than 50 vendors, the protocol is designed to condense and reformat data for the small displays on **handheld** information appliances. "It's a protocol that lets users request information from the Internet or corporate intranet...

... synchronizing data in devices with corporate networks will become more urgent. Some products, such as 3Com subsidiary **Palm** Computing's **PalmPilot** and **Palm** III, have a built-in **infrared** link that lets the devices coordinate schedules and calendars with their PC-based counterparts. But more integration...
... Philippe Kahn. Starfish built TrueSync software, which compares data in the information appliance with data on the **server** , and makes changes to update one or the other. It's this network connectivity and integration with...

... with new features including support for the Java Database Connectivity interface and Remote Method Invocation, and lower **memory** requirements.No one expects the next generation of appliances to replace laptop or desktop PCs wholesale. But...

...application access and use, then you'll still need a laptop," said Diana Hwang, research manager for **handheld** companion devices at International Data Corp., a Framingham, Mass., market research company. "But if you use only...

...Industries, a Pittsburgh ISP, has been using the Nokia 9000 Communicator to manage his company's Unix **servers** while away from his desk."I was on the road in Washington, D.C.," he said. "I...

... D.C., then used telnet to our TCP/IP net and was authenticated. Then I found a **server** that was running out of swapspace and rebooted it. Our users were able to log back in."

13/5,K/4 (Item 1 from file: 696)

00703290
APPLICATIONS WIRELESS APPLICATIONS
TELECOMS STANDARDS & APPROVALS REVIEW
November 20, 1999 VOL: 4 ISSUE: 10 DOCUMENT TYPE: NEWSLETTER
PUBLISHER: PHILLIPS BUSINESS INFORMATION
LANGUAGE: ENGLISH WORD COUNT: 991 RECORD TYPE: FULLTEXT

WAP to lead applications A number of speakers at the FT 'World Mobil e Communications' Conference, London 10 & 11 November, emphasised the impor tance of a data communication standard for mobile

COMPANY NAME(S): Across Wireless ; AT&T Labs ; Durlacher Research Ltd ; Enterprise Resource Planning ; Ericsson ; FT Conference on Mobile ; Intentia Research & Development ; IBM ; Jinny Software Ltd ; SIM Application ; Telecommunications Standards Institute ; World Mobile Communications 's Conference ; WAP Congress

TEXT:
...11 November, emphasised the importance of a
data communication standard for mobile applications. The development of WAP (**Wireless** Access Protocol) is seen as a major factor in the move from what was termed the present...

...Ajei Gopal (IBM) described the needs of the future service provider. There would be a need to **store** large quantities of data and to manage them, replication would be important where multiple access is allowed, a client/ **server** architecture would not be appropriate, **mobile devices** would be service oriented, security will be vital, interoperability is essential to ensure co-existence of multi...

...Resource Planning) System developed by Intentia, a large enterprise application software group, may now be accessed from **mobile phones** and **hand - held** devices. Johan Berg, Managing Director of Intentia Research & Development, has announced the facility which opens the way...

...the system. Previously companies had to use the SMS service for the distribution of information.

WAP enabled **server**
A range of new **servers** designed to be compatible with WAP-enabled **mobile phones** has been announced by Jinny Software Ltd. They were demonstrated at the WAP Congress, 15-18 November...

...time yet before WAP devices achieve a strong presence in the market so a Swedish company, Across **Wireless** , supplier of **wireless** application delivery systems to GSM operators, offers a solution that employs the WML (**Wireless** Markup Language) on existing phones now.
Operators and content providers looking for a large user base may...being delivered to millions of GSM subscribers.
However, by using the SAT technology to implement a WML (**Wireless** Markup Language) browser on the SIM card, the basic features of WAP can be made available on (SAT compliant) GSM phones. As WAP devices become generally available on the market Across **Wireless** claims that WML programmers will be able to seamlessly use the functions implemented on the SIM and...

...FT Conference on Mobile Communications (London 10 & 11 November).
Dr Ajei Gopal (IBM) described the application of **Bluetooth** (see TSAR. Volume 4, Number 4, April 1999) for **short - range wireless** communication between two **handheld** devices or between such a device and a nearby (within 10 metres) base station through which it...

...Among the examples he gave was a device being tracked as the user moved around a department **store** and being fed advertising material relevant to where the user is standing and the user making/receiving...

...at an airport, railway station, hotel foyer, etc. The device may also be able to communicate via **Bluetooth** with a UMTS mobile and through that gain access to networked services.
Note: At Telecom99 live IP-based videoconferencing via a 3rd-generation (3G) mobile system using **Bluetooth** connections was demonstrated by Ericsson. The demonstration combined a 3G system with **Bluetooth** technology. The videoconference used the MPEG-4 video standard, optimised via an encoder which Ericsson has developed...

...Andy Hopper (AT&T Labs, Cambridge) also predicted a future in which the precise location of the **mobile device** would be a major feature. The device might be a phone, lap-top, **PDA** , pager, or a new application-oriented unit. The greater bandwidth available for **wireless** communication would allow the use of simple, "thin", remote terminals which could handle voice and data but...

...to point out that in addition to a room, office and shop, typical locations for a simple **mobile device** are a vehicle such as a car, a golf cart, aeroplane, train, etc. the scope is almost...

13/5,K/5 (Item 2 from file: 696)
DIALOG(R)File 696:DIALOG Telecom. Newsletters

00669312
MOBILE
TELECOMS STANDARDS & APPROVALS REVIEW
April 20, 1999 VOL: 4 ISSUE: 4 DOCUMENT TYPE: NEWSLETTER
PUBLISHER: PHILLIPS BUSINESS INFORMATION
LANGUAGE: ENGLISH WORD COUNT: 1263 RECORD TYPE: FULLTEXT

* WAP: The wireless application protocol Introduction The wireless application protocol (WAP) is a completely new concept. It provides data-oriented (non-voice) services to the mass market and,

COMPANY NAME(S): Bluetooth Special Interest Group ; SIG

TEXT:
WAP: The **wireless** application protocol
Introduction
The **wireless** application protocol (WAP) is a completely new concept. It provides data-oriented (non-voice) services to the...
...capable of benefiting, anywhere
and at any time, far more end-users than the personal computer.
The **wireless** application protocol is a global standard for all **wireless** systems. The number of WAP subscribers is expected to increase from its debut in 1999 to about 800 million in the year 2003.

Applications
The **wireless** application protocol could encompass the entire **wireless** community. Examples include:
* Information retrieval on the Internet - The WAP browser can be used in a similar way to an ordinary 'surfing tool,' but there are some restrictions because the **mobile phone** sets some limits on input and output capability, **memory** size, and so forth.
* The 'serviceman application' - With a WAP-enabled **mobile phone** servicemen on duty can access their company inventory to check whether or not a spare part is...

...spare parts and immediately receive a confirmed delivery date.
* Notification applications - By means of agents residing in **servers** , users can be notified of e-mail and voice-mail messages that have been sent to them...
...obtain access to services
that handle call set-up, in combination with other services provided by a **wireless** operator. A typical use could involve a menu, defined by the user, that is displayed for each...

...to another extension or to a voice-mail service
* Functions - One of the objectives of specifying the **wireless** application protocol was to make the **mobile phone** compatible with the Internet. Therefore, it was only natural that an Internet-oriented approach be adopted. The...

...is similar to the layers used in
the Internet Protocol.
The following entities are defined in the **wireless** application protocol:
* Micro-browser - Can be compared to a standard Internet browser; for example, Netscape Navigator or Microsoft Internet Explorer.
* WML Script (**wireless** markup language, specified by the WAP Forum), similar to JavaScript. - The script provides a means of

reducing...
...handset; that is,
it enables the handset to process more information locally before sending it to the **server** .
* **Wireless** telephony application/WTA interface - The telephony part of the **wireless** application protocol. Makes it possible to create call-control and call-handling applications; for example, the definition...

...common ground on which
equipment manufacturers and operators must agree (see the News from ITU).

* Innovation in **wireless** , **short** - **range** **radio** technology **Bluetooth** announced
A rapidly growing consortium, now consisting of over 500 member companies, the **Bluetooth** Special Interest Group (SIG) has unveiled the official **Bluetooth** name and logo. **Bluetooth** is a **wireless** , **short** - **range** **radio** technology providing communication between a wide range of **mobile** **devices** .
The technology is suitable for connections between computers and printers, **mobile** **telephones** and **handheld** communications devices as well as digital cameras, etc.
Typical examples of its application might be Internet access via a completely **wireless** connection routed through a **mobile** **phone** to a **notebook** PC, and **wireless** transmission of a digital photograph directly to a mobile PC using **Bluetooth** -enabled cameras and **mobile** **phones** .
First announced in May 1998, the **Bluetooth** SIG has grown rapidly with support from telecommunications, consumer and PC industry leaders interested in developing products based on the **Bluetooth** specification.
The **Bluetooth** specification version 1.0 is scheduled for public release during the second quarter of 1999 and the...

...be announced during the second half of 1999 with delivery by the end of the year.

Technology
Bluetooth will be specifically designed to provide low-cost, robust, efficient, high capacity, ad hoc voice and data...

...to minimise current consumption.
The aim is to produce a specification for seamless connection and communication between **mobile** **computers** , digital **cellular** **phones** , **handheld** **devices** , network access points and other **mobile** **devices** via **wireless** **short** - **range** **radio** links unimpeded by line-of-sight restrictions, eliminating the need for proprietary cables to connect devices.
Based upon a small, high performance integrated **radio** transceiver, which is allocated a unique 48-bit address derived from the IEEE 802 standard, the system...

...packet switching protocol based on frequency hopping with 1600 hops/s to enable high performance in noisy **radio** environments. Short packets will enable **Bluetooth** to provide flexible and high data rate links in the presence of interference and CVSD (Continuous Variable...

...to the IEEE 802.11 standard.
Note: The name comes from the 9th century Danish king Harald **Bluetooth** . In the same way that he unified Scandinavia, interested manufacturers have now joined forces to create a common standard for **wireless** communications that can connect various applications using

radio technology

13/5,K/6 (Item 1 from file: 484)
DIALOG(R)File 484:Periodical Abs Plustext

04505922 (USE FORMAT 7 OR 9 FOR FULLTEXT)
Wireless tracking system improves Marine inventory accuracy
Willingham, Stephen
National Defense (FNDF), v84 n551, p18, p.1
Oct 1999
ISSN: 0092-1491 JOURNAL CODE: FNDF
DOCUMENT TYPE: News
LANGUAGE: English RECORD TYPE: Fulltext; Abstract
WORD COUNT: 428

ABSTRACT: In an effort to comply with orders from the office of the Secretary of Defense to reduce manpower, inventory levels and to improve customer service, the Marine Corps is shifting to portable computer terminals to manage logistics operations.

DESCRIPTORS: Portable computers; Policy making; Armed forces
SPECIAL FEATURES: Photograph
COMPANY INFORMATION:
Marine Corps-US
TEXT:
... with cumbersome paperwork.
The 7035 features 33 MHz, 486 DX and can be upgraded to 10 MB **RAM** with 6 MB of flash **ROM** and options that can add up to 128 MB file **storage** . The **handheld** device also is a radio with a 2.4 GHz configuration. In addition, the 7035 can be...

...using two RS-232 ports. Other features include an IrDA port for batch-mode transfer with a **host** computer and **short - range** communication with compatible interface.
Upon introducing a barcode scanning system activated by either fixed station PCs or...

```
Set     Items   Description
S1      65925   AU=(SUZUKI, N? OR SUZUKI N? OR TANAKA, H? OR TANAKA H?)
S2          0   S1 AND PROGRAM()STORAGE
S3         74   S1 AND WIRELESS
S4          1   S3 AND (STORAGE OR MEMORY OR RAM)
S5         74   S3 OR S4
S6         60   S5 NOT PY>2000
S7         60   S6 NOT PD>20000204
S8         39   RD (unique items)
File   2:INSPEC 1969-2004/May W1
         (c) 2004 Institution of Electrical Engineers
File   6:NTIS 1964-2004/May W3
         (c) 2004 NTIS, Intl Cpyrght All Rights Res
File   8:Ei Compendex(R) 1970-2004/May W1
         (c) 2004 Elsevier Eng.  Info. Inc.
File  34:SciSearch(R) Cited Ref Sci 1990-2004/May W2
         (c) 2004 Inst for Sci Info
File  35:Dissertation Abs Online 1861-2004/Apr
         (c) 2004 ProQuest Info&Learning
File  65:Inside Conferences 1993-2004/May W2
         (c) 2004 BLDSC all rts. reserv.
File  92:IHS Intl.Stds.& Specs. 1999/Nov
         (c) 1999 Information Handling Services
File  94:JICST-EPlus 1985-2004/Apr W3
         (c)2004 Japan Science and Tech Corp(JST)
File  95:TEME-Technology & Management 1989-2004/Apr W4
         (c) 2004 FIZ TECHNIK
File  99:Wilson Appl. Sci & Tech Abs 1983-2004/Apr
         (c) 2004 The HW Wilson Co.
File 103:Energy SciTec 1974-2004/May B1
         (c) 2004 Contains copyrighted material
File 144:Pascal 1973-2004/May W1
         (c) 2004 INIST/CNRS
File 202:Info. Sci. & Tech. Abs. 1966-2004/Feb 27
         (c) 2004 EBSCO Publishing
File 233:Internet & Personal Comp. Abs. 1981-2003/Sep
         (c) 2003 EBSCO Pub.
File 239:Mathsci 1940-2004/Jun
         (c) 2004 American Mathematical Society
File 275:Gale Group Computer DB(TM) 1983-2004/May 14
         (c) 2004 The Gale Group
File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec
         (c) 1998 Inst for Sci Info
File 647:CMP  Computer Fulltext 1988-2004/May W1
         (c) 2004 CMP Media, LLC
File 674:Computer News Fulltext 1989-2004/May W1
         (c) 2004 IDG Communications
File 696:DIALOG Telecom. Newsletters 1995-2004/May 13
         (c) 2004 The Dialog Corp.
```

8/5,K/1 (Item 1 from file: 2)
DIALOG(R)File 2:INSPEC

6858237 INSPEC Abstract Number: B2001-04-6250F-097, C2001-04-6110B-020
Title: Design of software radio for cellular communication systems and wireless LANs
Author(s): Uehara, K.; **Tanaka, H.** ; Shiba, H.; Suzuki, Y.; Nakatsugawa, M.; Shirato, Y.; Kubota, S.
Author Affiliation: NTT Network Syst. Dev. Center, Kanagawa, Japan
Conference Title: 11th IEEE International Symposium on Personal Indoor and Mobile Radio Communications. PIMRC 2000. Proceedings (Cat. No.00TH8525) Part vol.1 p.474-8 vol.1
Publisher: IEEE, Piscataway, NJ, USA
Publication Date: 2000 Country of Publication: USA 2 vol.xxxii+1603 pp.
ISBN: 0 7803 6463 5 Material Identity Number: XX-2000-01286
U.S. Copyright Clearance Center Code: 0 7803 6463 5/2000/$10.00
Conference Title: Proceedigns of 11th International Symposium on Personal, Indoor and Mobile Radio Communication
Conference Sponsor: King's College London; IEEE Networking the World; IEEE Commun. Soc.; IEE; BT; ACM; vodafone; Ericsson; Mobile VCE; southern poro commun.; NOKIA; Lucent Technol.; TOSHIBA; MOTOROLA; SIEMENS; SONY; WFI
Conference Date: 18-21 Sept. 2000 Conference Location: London, UK
Language: English Document Type: Conference Paper (PA)
Treatment: Applications (A); Practical (P)
Abstract: Software radio base and personal station prototypes for cellular communication systems are designed and implemented. The prototypes are composed of commercial multipurpose DSPs and CPU, pre- and post-processors, A/D/A converters, and RF/IF units. In order to use processor resources effectively, the DSP program handles signal processing in physical and data-link protocol-layers, while the CPU program takes charge of high protocol-layers including call control and system control. The prototypes support various air interfaces, some of which are equivalent to the 384 kbit/s transmission rate PHS (personal handy phone system) and a 96 kbit/s transmission rate FDMA/TDD system. Excellent transmitting and receiving performance, compared to conventional hardware radios, is achieved. In addition, expanding the prototypes to support IEEE 802.11 **wireless** LANs is examined. This paper describes the design and evaluation of the prototypes for cellular systems, and discusses issues and strategies for supporting IEEE 802.11 **wireless** LANs. (9 Refs)
Subfile: B C
Descriptors: access protocols; analogue-digital conversion; cellular radio; digital signal processing chips; digital-analogue conversion; frequency division multiple access; personal communication networks; software prototyping; **wireless** LAN
Identifiers: software radio design; cellular communication systems; personal station prototypes; commercial multipurpose DSP; post-processors; pre-processors; ADC; DAC; RF/IF units; DSP program; signal processing; physical layers; data-link protocol-layer; CPU program; high protocol-layers; call control; system control; air interfaces; transmission rate; PHS; personal handy phone system; FDMA/TDD system; transmitting performance; receiving performance; IEEE 802.11 **wireless** LAN; 96 kbit/s; 384 kbit/s
Class Codes: B6250F (Mobile radio systems); B6210L (Computer communications); B1265H (A/D and D/A convertors); B6150M (Protocols); B6150E (Multiple access communication); B1265F (Microprocessors and microcomputers); C6110B (Software engineering techniques); C5620L (Local area networks); C5180 (A/D and D/A convertors); C5640 (Protocols); C5135 (Digital signal processing chips); C5260 (Digital signal processing)
Numerical Indexing: bit rate 9.6E+04 bit/s; bit rate 3.84E+05 bit/s

Title: Design of software radio for cellular communication systems and wireless LANs
Author(s): Uehara, K.; **Tanaka, H.** ; Shiba, H.; Suzuki, Y.; Nakatsugawa, M.; Shirato, Y.; Kubota, S.

...Abstract: compared to conventional hardware radios, is achieved. In addition, expanding the prototypes to support IEEE 802.11 **wireless** LANs is examined. This paper describes the design and evaluation of the prototypes for cellular systems, and discusses issues and strategies for supporting IEEE 802.11 **wireless** LANs.
...Descriptors: **wireless** LAN
...Identifiers: IEEE 802.11 **wireless** LAN...

8/5,K/2 (Item 2 from file: 2)
DIALOG(R)File 2:INSPEC

6514725 INSPEC Abstract Number: B2000-04-6210L-030, C2000-04-3390C-050
Title: Development of autonomous mobile humanoid robot
Author(s): Aramaki, S.; Shirouzu, H.; Kurono, S.; Mino, M.; Uno, Y.; Hara, K.; **Tanaka, H.** ; Tsuruoka, T.
Author Affiliation: Fac. of Eng., Fukuoka Univ., Japan
Conference Title: IECON'99. Conference Proceedings. 25th Annual Conference of the IEEE Industrial Electronics Society (Cat. No.99CH37029) Part vol.2 p.529-34 vol.2
Publisher: IEEE, Piscataway, NJ, USA
Publication Date: 1999 Country of Publication: USA 3 vol. xiv+1509 pp.
ISBN: 0 7803 5735 3 Material Identity Number: XX-2000-00027
U.S. Copyright Clearance Center Code: 0 7803 5735 3/99/$10.00
Conference Title: IECON'99. Conference Proceedings. 25th Annual Conference of the IEEE Industrial Electronics Society
Conference Date: 29 Nov.-3 Dec. 1999 Conference Location: San Jose, CA, USA
Language: English Document Type: Conference Paper (PA)
Treatment: Practical (P)
Abstract: The authors built a humanoid robot which behaves the same as the human in the space concerned. The mechanism and functions, such as vision sensor, acoustic sensor and loudspeaker, are mounted on this robot in order that the multi modal bidirectional communication between the robot and the human is possible. The authors adopted parallel processing by multi CPUs. The computers in the robot body are mutually connected by an Ethernet LAN. This LAN consists of the cerebrum system LAN and the motion system LAN in which a robot can quickly perform conditioned reflex actions as well as a human does. By using a **wireless** LAN, the LAN in a robot is connected to the outside LAN connecting the computers for software development and system support. In this paper, the outline of the developed humanoid robot is described. (7 Refs)
Subfile: B C
Descriptors: mobile robots; multiprocessing systems; parallel processing; **wireless** LAN
Identifiers: autonomous mobile humanoid robot development; vision sensor; acoustic sensor; loudspeaker; multi modal bidirectional communication; parallel processing; multi CPUs; Ethernet LAN; cerebrum system LAN; motion system LAN; software development; system support; **wireless** LAN
Class Codes: B6210L (Computer communications); B6250 (Radio links and equipment); C3390C (Mobile robots); C5440 (Multiprocessing systems); C7420 (Control engineering computing); C5620L (Local area networks); C6150N (Distributed systems software)

Author(s): Aramaki, S.; Shirouzu, H.; Kurono, S.; Mino, M.; Uno, Y.; Hara, K.; **Tanaka, H.** ; Tsuruoka, T.
...Abstract: a robot can quickly perform conditioned reflex actions as well as a human does. By using a **wireless** LAN, the LAN in a robot is connected to the outside LAN connecting the computers for software...
...Descriptors: **wireless** LAN
...Identifiers: **wireless** LAN

8/5,K/3 (Item 3 from file: 2)
DIALOG(R)File 2:INSPEC

6439402 INSPEC Abstract Number: B2000-01-6250-064
Title: Wireless **ID tags using a figure-8-shaped coil**
Author(s): **Suzuki, N.** ; Ohtani, Y.; Hoshiya, K.; Nakajima, H.
Author Affiliation: NTT Integrated Inf. & Energy Syst. Lab., Tokyo, Japan
Conference Title: 1998 Asia Pacific Microwave Conference Proceedings. - APMC'98 - Part vol.2 p.857-60 vol.2
Publisher: Inst. Electron. Inf. & Commun. Eng, Tokyo, Japan
Publication Date: 1998 Country of Publication: Japan 3 vol. 1520 pp.
Material Identity Number: XX-1999-00329
Conference Title: Proceedings of Asia-Pacific Microwave Conference
Conference Sponsor: IEICE of Japan; IEEE MTT-S; URSI; IEEE MTT-S
Conference Date: 8-11 Dec. 1998 Conference Location: Yokohama, Japan
Medium: Also available on CD-ROM in PDF format
Language: English Document Type: Conference Paper (PA)
Treatment: Applications (A); Practical (P)
Abstract: To enable the application of inductive-coupling tags to systems used to managing metal goods and equipment, we fabricated an inductive-coupling tag with a figure-8 shaped coil. This type of tag is capable of a longer communication distance than a rectangular-coil tag when the tags were put in a hole formed in metal. We also showed that the tag was capable of a long communication distance even when placed in a shallow hole. We confirmed that the figure-8 tag was suitable for a system to manage metal objects, because it is easy to install in the metal body and offers a long communication distance. (4 Refs)
Subfile: B
Descriptors: coils; data communication equipment; electromagnetic coupling; frequency shift keying; identification technology; phase shift keying; radio applications; transponders
Identifiers: **wireless** ID tags; figure-8-shaped coil; inductive-coupling tags; metal goods management; communication distance; shallow hole; LSI chip; FSK; PSK
Class Codes: B6250 (Radio links and equipment); B6120 (Modulation and coding methods)

Title: Wireless **ID tags using a figure-8-shaped coil**
Author(s): **Suzuki, N.** ; Ohtani, Y.; Hoshiya, K.; Nakajima, H.
Identifiers: **wireless** ID tags...

8/5,K/4 (Item 4 from file: 2)
DIALOG(R)File 2:INSPEC

6428668 INSPEC Abstract Number: B2000-01-6210R-022
Title: Iterative processing for improving decode quality in mobile multimedia communications
Author(s): Yamasaki, S.; **Tanaka, H.** ; Asano, A.
Author Affiliation: YRP Mobile Telecommun. Key Technol. Res. Labs. Co. Ltd., Yokosuka, Japan
Journal: IEICE Transactions on Fundamentals of Electronics, Communications and Computer Sciences vol.E82-A, no.10 p.2096-104
Publisher: Inst. Electron. Inf. & Commun. Eng,
Publication Date: Oct. 1999 Country of Publication: Japan
CODEN: IFESEX ISSN: 0916-8508
SICI: 0916-8508(199910)E82A:10L.2096:IPID;1-D
Material Identity Number: P710-1999-011
Language: English Document Type: Journal Paper (JP)
Treatment: Theoretical (T)
Abstract: Multimedia communications over mobile networks suffer from fluctuating channel degradation. Conventional error handling schemes consist of the first stage error correction decoding in the **wireless** interface and the second stage error correction decoding in the multimedia demultiplexer, where the second stage decoding result is not used to improve the first stage decoding performance. To meet the requirements of

more powerful error protection, we propose iterative soft-input/soft-output error correction decoding in multimedia communications, where the likelihood output generated by the error correction decoding in multimedia demultiplexer is fed back to the decoding in **wireless** interface and the decoding procedure is iterated. The performances were evaluated by MPEG-4 video transmission simulation over mobile channels. (14 Refs)
Subfile: B
Descriptors: digital communication; error correction; feedback; iterative decoding; mobile communication; multimedia communication; multiplexing; turbo codes
Identifiers: iterative processing; decode quality improvement; mobile multimedia communications; mobile networks; fluctuating channel degradation ; error protection; soft-input/soft-output error correction; error correction decoding; **wireless** interface; MPEG-4 video transmission simulation
Class Codes: B6210R (Multimedia communications); B6250F (Mobile radio systems); B6120B (Codes); B6150C (Communication switching)

Author(s): Yamasaki, S.; **Tanaka, H.** ; Asano, A.
...Abstract: fluctuating channel degradation. Conventional error handling schemes consist of the first stage error correction decoding in the **wireless** interface and the second stage error correction decoding in the multimedia demultiplexer, where the second stage decoding...

... output generated by the error correction decoding in multimedia demultiplexer is fed back to the decoding in **wireless** interface and the decoding procedure is iterated. The performances were evaluated by MPEG-4 video transmission simulation...
...Identifiers: **wireless** interface

8/5,K/5 (Item 5 from file: 2)
DIALOG(R)File 2:INSPEC

6039580 INSPEC Abstract Number: B9811-5270B-010
Title: A study on antenna coils for wireless **ID tags**
Author(s): **Suzuki, N.** ; Nagai, Y.; Ohtani, Y.; Ichinose, Y.
Author Affiliation: NTT Integrated Inf. & Energy Syst. Labs., Tokyo, Japan
Conference Title: 1997 Asia-Pacific Microwave Conference Proceedings APMC '97. Wireless Communication in the Era of Information (IEEE Cat. No.97TH8336) Part vol.3 p.1077-80 vol.3
Publisher: City Univ. Hong Kong, Hong Kong
Publication Date: 1997 Country of Publication: Hong Kong 3 vol. xxiv+1236 pp.
ISBN: 962 442 117 X Material Identity Number: XX98-00586
Conference Title: Proceedings of 1997 Asia-Pacific Microwave Conference
Conference Sponsor: Comput. Products Asia Pacific; Comm Tech Technol.; Epson Found.; Hewlett-Packard Hong Kong; Hong Kong Ind. Technol. Centre Corp.; Hongkong Telecom Found.; IEEE Hong Kong MTT/AP/LEO Chapter; IEEE-MTT-S; K.C. Wong Educ. Found.; Motorola Semicond. Hong Kong; Nat. Natural Sci. Found. China; Pacific Link Commun.; School of Continuing & Professional Educ. (City U); State Sci. & Technol. Comm., PRC; VTech Commun
Conference Date: 2-5 Dec. 1997 Conference Location: Hong Kong
Language: English Document Type: Conference Paper (PA)
Treatment: Theoretical (T); Experimental (X)
Abstract: A figure-8-shaped coil is proposed for an antenna of a **wireless** ID tag to be used for system managing metal facilities. The coil was designed based on results of magnetic field distribution calculations. The coil can achieve a large induced electromotive force even in a hole formed in metal. (3 Refs)
Subfile: B
Descriptors: access control; coils; electromagnetic induction; loop antennas; mobile antennas
Identifiers: antenna coils; **wireless** ID tags; figure-8-shaped coil;

system managing metal facilities; magnetic field distribution calculations; large induced electromotive force; inductive coupling tag; magnetic flux distribution; position dependence; loop antenna
Class Codes: B5270B (Single antennas); B2140 (Inductors and transformers); B5140 (Electromagnetic induction)

Title: A study on antenna coils for wireless **ID tags**
Author(s): **Suzuki, N.** ; Nagai, Y.; Ohtani, Y.; Ichinose, Y.
Abstract: A figure-8-shaped coil is proposed for an antenna of a **wireless** ID tag to be used for system managing metal facilities. The coil was designed based on results...
...Identifiers: **wireless** ID tags

8/5,K/6 (Item 6 from file: 2)
DIALOG(R)File 2:INSPEC

5570892 INSPEC Abstract Number: B9706-6250-013
Title: Wireless **tag system using an infrared beam and an electromagnetic wave for outdoor facilities**
Author(s): Nagai, Y.; **Suzuki, N.** ; Ohtani, Y.; Ichinose, Y.; Suda, H.
Author Affiliation: NTT Inf. Hardware Syst. Lab., Musashino, Japan
Journal: IEICE Transactions on Communications vol.E80-B, no.3 p. 494-8
Publisher: Inst. Electron. Inf. & Commun. Eng,
Publication Date: March 1997 Country of Publication: Japan
CODEN: ITCMEZ ISSN: 0916-8516
SICI: 0916-8516(199703)E80B:3L.494:WSUI;1-R
Material Identity Number: P711-97004
Language: English Document Type: Journal Paper (JP)
Treatment: Practical (P)
Abstract: A **wireless** tag system has been designed and developed for maintaining and managing outdoor communication facilities. This system employs an infrared (IR) beam and a radio frequency (RF) electromagnetic wave, and is constructed using IR-RF tags, an IR commander, and an RF receiver. The IR command radiation with strong directivity enables a maintenance operator to recognize a target facility, and the RF response without directivity enables a management system to obtain data from within a large circular area. Solar and secondary batteries are also adopted as the power modules in the tag to allow easy maintenance at long intervals. IR signal communication is possible up to a distance of 9 m, and RF signal communication is possible within a circle with a radius of 9 m. (5 Refs)
Subfile: B
Descriptors: maintenance engineering; optical links; radio direction-finding; radio links; radio receivers; secondary cells; solar cells; telecommunication equipment; telecommunication network management
Identifiers: **wireless** tag system; infrared beam; electromagnetic wave; outdoor facilities; outdoor communication facilities; IR-RF tags; RF receiver; target facility; management system; solar batteries; secondary batteries; power module; 9 m
Class Codes: B6250 (Radio links and equipment); B6210C (Network management); B6330 (Radionavigation and direction finding); B6260 (Optical links and equipment)
Numerical Indexing: distance 9.0E+00 m

Title: Wireless **tag system using an infrared beam and an electromagnetic wave for outdoor facilities**
Author(s): Nagai, Y.; **Suzuki, N.** ; Ohtani, Y.; Ichinose, Y.; Suda, H.
Abstract: A **wireless** tag system has been designed and developed for maintaining and managing outdoor communication facilities. This system employs...
Identifiers: **wireless** tag system...

8/5,K/7 (Item 7 from file: 2)
DIALOG(R)File 2:INSPEC

4988225 INSPEC Abstract Number: B9508-2860C-022
Title: Quasi-microwave band longitudinally coupled surface acoustic wave resonator filters using ZnO/sapphire substrate
Author(s): Koike, J.; **Tanaka, H.** ; Ieki, H.
Author Affiliation: Murata Manuf. Co. Ltd., Kyoto, Japan
Journal: Japanese Journal of Applied Physics, Part 1 (Regular Papers & Short Notes) vol.34, no.5B p.2678-82
Publication Date: May 1995 Country of Publication: Japan
CODEN: JAPNDE ISSN: 0021-4922
Language: English Document Type: Journal Paper (JP)
Treatment: Practical (P)
Abstract: The 1.5 and 2.4 GHz range 5IDT-type longitudinally coupled surface acoustic wave (SAW) resonator filters have been developed using ZnO/sapphire substrate. The 1.5 GHz range SAW filter has the minimum insertion loss of 1.0 dB and the relative bandwidth of 2.4% at the insertion loss of 3 dB. The 2.4 GHz range SAW filter has the minimum insertion loss of 1.7 dB and the relative bandwidth of 1.7% at the insertion loss of 3 dB. These filters are suitable for use as RF-stage filters in a personal digital cellular (PDC) system terminal and a **wireless** local area network (LAN) adapter, respectively. (4 Refs)
Subfile: B
Descriptors: sapphire; surface acoustic wave resonator filters; zinc compounds
Identifiers: quasi-microwave band longitudinally coupled surface acoustic wave resonator filters; ZnO/sapphire substrate; insertion loss; relative bandwidth; RF-stage filters; personal digital cellular system terminal; **wireless** local area network adapter; 1.5 GHz; 2.4 GHz; ZnO-Al/sub 2/O/sub 3
Class Codes: B2860C (Acoustic wave devices)
Chemical Indexing:
ZnO-Al2O3 int - Al2O3 int - Al2 int - ZnO int - Al int - O3 int - Zn int - O int - Al2O3 bin - Al2 bin - ZnO bin - Al bin - O3 bin - Zn bin - O bin (Elements - 2,2,3)
Numerical Indexing: frequency 1.5E+09 Hz; frequency 2.4E+09 Hz

Author(s): Koike, J.; **Tanaka, H.** ; Ieki, H.
...Abstract: suitable for use as RF-stage filters in a personal digital cellular (PDC) system terminal and a **wireless** local area network (LAN) adapter, respectively.
...Identifiers: **wireless** local area network adapter

8/5,K/8 (Item 1 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

04505450 E.I. No: EIP96093344786
Title: New personal multi-functional card and related communication equipment for an automatic call forwarding service
Author: Nagai, Y.; Ohtani, Y.; **Suzuki, N.** ; Ichinose, Y.; Kumahara, N.
Corporate Source: NTT Interdisciplinary Research Lab, Ibaraki, Jpn
Source: IEICE Transactions on Fundamentals of Electronics, Communications and Computer Sciences v E79-A n 7 July 1996. p 1097-1103
Publication Year: 1996
CODEN: IFESEX ISSN: 0916-8508
Language: English
Document Type: JA; (Journal Article) Treatment: T; (Theoretical)
Journal Announcement: 9611W3
Abstract: A new multi-functional card with a display, sounder and input keys, and related communication equipment, including a microwave base station and a contactless surface reader/writer, have been developed to perform the functions of positioning, paging, returning a message and

identity certification. We confirmed that a prototype subsystem was capable of providing a simple and automatic call forwarding service. The multi-functional card as an ID card and a personal data terminal, and its subsystem can provide new personal services for a multimedia office. (Author abstract) 4 Refs.

Descriptors: *Personal communication systems; Radio telephone; Telephone equipment; Telephone accounting systems; Telecommunication services; Automatic telephone systems

Identifiers: Multi-functional **wireless** cards; Automatic call forwarding service; Identity certification; Multimedia office; Universal personal telecommunication

Classification Codes:

718.1 (Telephone Systems & Equipment); 716.1 (Information & Communication Theory); 911.1 (Cost Accounting)

718 (Telephone & Line Communications); 716 (Radar, Radio & TV Electronic Equipment); 911 (Industrial Economics)

71 (ELECTRONICS & COMMUNICATIONS); 91 (ENGINEERING MANAGEMENT)

Author: Nagai, Y.; Ohtani, Y.; **Suzuki, N.** ; Ichinose, Y.; Kumahara, N.

Identifiers: Multi-functional **wireless** cards; Automatic call forwarding service; Identity certification; Multimedia office; Universal personal telecommunication

8/5,K/9 (Item 2 from file: 8)

03661768 E.I. No: EIP93071018360

Title: Design of cylindrically-shaped steel tower against wind-induced vibration

Author: Shinohara, Toshinobu; Mizoguchi, Yoshihiro; **Tanaka, Hidekazu** ; Kojima, Osamu; Sakino, Yoshihiro; Nozu, Seiichi

Corporate Source: NKK Corp, Kawasaki, Jpn

Source: NKK Technical Review n 67 Apr 1993. p 69-76

Publication Year: 1993

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Journal Announcement: 9308W4

Abstract: A tapered cylindrical steel **wireless** relay station tower was planned, designed, fabricated and constructed by NKK for JAPAN TELECOM Co., Ltd. Considerations for limiting wind-induced vibration were important because the tower is slender and has low structural damping. An all-round type of tuned pendulum mass damper (TMD) was installed on this tower based on the results of wind tunnel tests. The effectiveness of the TMD was confirmed through vibration measurements conducted after erection. (Author abstract) 2 Refs.

Descriptors: *Steel structures; Radio towers; Vibration control; Damping; Wind effects; Vibration measurement; Structural design; Steel construction

Identifiers: Tapered cylindrical steel **wireless** relay station tower; NKK Corporation; Japan Telecom Co., Ltd.; Tuned pendulum mass damper

Classification Codes:

408.2 (Structural Members & Shapes); 545.3 (Steel); 716.3 (Radio Systems & Equipment); 731.3 (Specific Variables Control); 931.1 (Mechanics); 943.2 (Mechanical Variables Measurements)

408 (Structural Design); 545 (Iron & Steel); 716 (Radar, Radio & TV Electronic Equipment); 731 (Automatic Control Principles); 931 (Applied Physics); 943 (Mechanical & Miscellaneous Measuring Instruments)

54 (METAL GROUPS); 71 (ELECTRONICS & COMMUNICATIONS); 73 (CONTROL ENGINEERING); 93 (ENGINEERING PHYSICS); 94 (INSTRUMENTS & MEASUREMENT)

Author: Shinohara, Toshinobu; Mizoguchi, Yoshihiro; **Tanaka, Hidekazu** ; Kojima, Osamu; Sakino, Yoshihiro; Nozu, Seiichi

Abstract: A tapered cylindrical steel **wireless** relay station tower was planned, designed, fabricated and constructed by NKK for JAPAN TELECOM Co.,

Ltd. Considerations...
Identifiers: Tapered cylindrical steel **wireless** relay station tower; NKK Corporation; Japan Telecom Co., Ltd.; Tuned pendulum mass damper

8/5,K/10 (Item 1 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

05013777 Genuine Article#: UZ269 Number of References: 4
Title: A NEW PERSONAL MULTIFUNCTIONAL CARD AND RELATED COMMUNICATION EQUIPMENT FOR AN AUTOMATIC CALL FORWARDING SERVICE
Author(s): NAGAI Y; OHTANI Y; **SUZUKI N** ; ICHINOSE Y; KUMAHARA N
Corporate Source: NIPPON TELEGRAPH & TEL PUBL CORP,INTERDISCIPLINARY RES LABS/TOKAI/IBARAKI 31911/JAPAN/
Journal: IEICE TRANSACTIONS ON FUNDAMENTALS OF ELECTRONICS COMMUNICATIONS AND COMPUTER SCIENCES, 1996, VE79A, N7 (JUL), P1097-1103
ISSN: 0916-8508
Language: ENGLISH Document Type: ARTICLE
Geographic Location: JAPAN
Subfile: SciSearch; CC ENGI--Current Contents, Engineering, Technology & Applied Sciences
Journal Subject Category: ENGINEERING, ELECTRICAL & ELECTRONIC; COMPUTER SCIENCE, HARDWARE & ARCHITECTURE; COMPUTER SCIENCE, INFORMATION SYSTEMS
Abstract: A new multi-functional card with a display, sounder and input keys, and related communication equipment, including a microwave base station and a contactless surface reader/writer, have been developed to perform the Functions of positioning, paging, returning a message and identity certification. We confirmed that a prototype subsystem was capable of providing a simple and automatic call forwarding service. The multi-functional card as an ID card and a personal data terminal, and its subsystem can provide new personal services for a multimedia office.
Descriptors--Author Keywords: MULTIFUNCTIONAL **WIRELESS** CARDS ; AUTOMATIC CALL FORWARDING SERVICE ; IDENTITY CERTIFICATION ; UNIVERSAL PERSONAL TELECOMMUNICATION ; MULTIMEDIA OFFICE
Cited References:
UNIVERSAL PERSONAL T, 1992
10586 ISO IEC, 1996
KUMAHARA N, UNPUB STUDY PERSONAL
MIZUSAWA J, 1989, V72, P94, IEICE T J

Author(s): NAGAI Y; OHTANI Y; **SUZUKI N** ; ICHINOSE Y; KUMAHARA N

8/5,K/11 (Item 1 from file: 65)
DIALOG(R)File 65:Inside Conferences

03599619 INSIDE CONFERENCE ITEM ID: CN037896240
An adaptive array for multi-carrier transmission
Fujimoto, M.; Nishikawa, K.; Shibata, T.; **Suzuki, N.** ; Itoh, N.
CONFERENCE: Antennas and propagation for wireless communications-Conference
IEEE APS CONFERENCE ON ANTENNAS AND PROPAGATION FOR WIRELESS COMMUNICATIONS, 2000 P: 167-170
ISBN: 0780358945
LANGUAGE: English DOCUMENT TYPE: Conference Preprinted papers and program. ieee cat no 00ex380
CONFERENCE SPONSOR: IEEE
CONFERENCE LOCATION: Waltham, MA 2000; Nov (200011) (200011)

BRITISH LIBRARY ITEM LOCATION: 4362.805750
DESCRIPTORS: antennas; **wireless** communications; IEEE

Fujimoto, M.; Nishikawa, K.; Shibata, T.; **Suzuki, N.** ; Itoh, N.
DESCRIPTORS: antennas; **wireless** communications; IEEE

8/5,K/12 (Item 2 from file: 65)
DIALOG(R)File 65:Inside Conferences
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03256473 INSIDE CONFERENCE ITEM ID: CN034422278
A Channel Control Method for Multicarrier Transmission Considering Channel Response
Shibata, T.; **Suzuki, N.** ; Fujimoto, M.; Nishikawa, K.; Yamazato, T.; Ogawa, A.
CONFERENCE: Asia-Pacific microwave conference
ASIA-PACIFIC MICROWAVE CONFERENCE PROCEEDING, 1998; VOLUME 2 P: 853-856
Institute of Electronics, Information and Communication Engineers , 1998
LANGUAGE: English DOCUMENT TYPE: Conference Papers
CONFERENCE SPONSOR: Institute of Electronics, Information and Communication Engineers
CONFERENCE LOCATION: Yokohama, Japan
CONFERENCE DATE: Dec 1998 (199812) (199812)

BRITISH LIBRARY ITEM LOCATION: 1742.260975
NOTE:
Theme title is "Beyond **wireless** multimedia society". Also known as APMC'98; SEE ALSO 1742. 260972 V 1998 FOR PAPERS HELD ON CD
DESCRIPTORS: APMC; microwave; communication engineers

Shibata, T.; **Suzuki, N.** ; Fujimoto, M.; Nishikawa, K.; Yamazato, T.; Ogawa, A.

NOTE:
Theme title is "Beyond **wireless** multimedia society". Also known as APMC'98; SEE ALSO 1742. 260972 V 1998 FOR PAPERS HELD ON...

8/5,K/13 (Item 1 from file: 94)
DIALOG(R)File 94:JICST-EPlus
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04773166 JICST ACCESSION NUMBER: 96A0859857 FILE SEGMENT: JICST-E
Wireless **Tag System Using Infrared and Electric Wave.**
NAGAI YASUHIRO (1); **SUZUKI NAOBUMI** (1); OTANI YOSHIMITSU (1); ICHINOSE YUTAKA (1)
(1) Nippon Telegr. and Teleph. Corp., Interdisciplinary Res. Lab.
Denshi Joho Tsushin Gakkai Taikai Koen Ronbunshu(Proceedings of the IEICE General Conference (Institute of Electronics, Information and Communication Engineers), 1996, VOL.1996,NO.Society B1, PAGE.499, FIG.1, TBL.2, REF.1
JOURNAL NUMBER: G0508AEP
UNIVERSAL DECIMAL CLASSIFICATION: 621.391.6
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Conference Proceeding
ARTICLE TYPE: Short Communication
MEDIA TYPE: Printed Publication
DESCRIPTORS: infrared radiation; communication equipment; maintenance management; outdoor; optical communication; radio transmission; identification; IC card
IDENTIFIERS: data carrier
BROADER DESCRIPTORS: light; electromagnetic wave; wave motion; facility; position; communication system; method; recognition; card(sheet)
CLASSIFICATION CODE(S): ND10000B

Wireless **Tag System Using Infrared and Electric Wave.**
NAGAI YASUHIRO (1); **SUZUKI NAOBUMI** (1); OTANI YOSHIMITSU (1); ICHINOSE YUTAKA (1)

8/5,K/14 (Item 2 from file: 94)

DIALOG(R)File 94:JICST-EPlus

04772896 JICST ACCESSION NUMBER: 96A0859374 FILE SEGMENT: JICST-E
Rejection of Narrow-Band Interference Using Magnetostatic Wave Filter for Spread Spectrum System.
KOUCHI TETSUYA (1); KAWABATA HIROSHI (1); **TANAKA HIROAKI** (1); ISHIKAWA YOHEI (1)
(1) Murata Manuf. Co., Ltd.
Denshi Joho Tsushin Gakkai Taikai Koen Ronbunshu(Proceedings of the IEICE General Conference (Institute of Electronics, Information and Communication Engineers), 1996, VOL.1996,NO.Society A, PAGE.271-272, FIG.6, REF.3
JOURNAL NUMBER: G0508AEP
UNIVERSAL DECIMAL CLASSIFICATION: 621.396
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Conference Proceeding
ARTICLE TYPE: Short Communication
MEDIA TYPE: Printed Publication
DESCRIPTORS: spread spectrum communication; electromagnetic compatibility; interference noise; noise reduction; narrow band; **wireless** LAN; magnetostatic wave; filter(signal
BROADER DESCRIPTORS: communication system; method; interference; electric interference; disorder/trouble/obstacle; noise(signal); reduction; variation; bandwidth; LAN; computer network; communication network; information network; network; spin wave; wave motion; filter
CLASSIFICATION CODE(S): ND08010L

KOUCHI TETSUYA (1); KAWABATA HIROSHI (1); **TANAKA HIROAKI** (1); ISHIKAWA YOHEI (1)
...DESCRIPTORS: **wireless** LAN

8/5,K/15 (Item 3 from file: 94)
DIALOG(R)File 94:JICST-EPlus

04769859 JICST ACCESSION NUMBER: 95A0912091 FILE SEGMENT: JICST-E
Active-type Wireless **Card System with Several I/O Devices.**
OTANI YOSHIMITSU (1); NAGAI YASUHIRO (1); **SUZUKI NAOBUMI** (1); ICHINOSE YUTAKA (1)
(1) Nippon Telegr. and Teleph. Corp., Interdisciplinary Res. Lab.
Denshi Joho Tsushin Gakkai Taikai Koen Ronbunshu(Proceedings of the IEICE General Conference (Institute of Electronics, Information and Communication Engineers), 1995, VOL.1995,NO.Society B2, PAGE.139, FIG.3, TBL.1, REF.2
JOURNAL NUMBER: G0508AEP
UNIVERSAL DECIMAL CLASSIFICATION: 621.395
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Conference Proceeding
ARTICLE TYPE: Short Communication
MEDIA TYPE: Printed Publication
DESCRIPTORS: cordless telephone; personal communication; IC card; transmitter; VHF; field intensity; base station
IDENTIFIERS: **wireless** card
BROADER DESCRIPTORS: telephone; voice communication; telecommunication; land mobile communication; mobile communication; card(sheet); transceiver; communication apparatus; equipment; frequency(Hz); frequency; strength; radio station; communication station; communication establishment; facility and building
CLASSIFICATION CODE(S): ND11030P

Active-type Wireless **Card System with Several I/O Devices.**
OTANI YOSHIMITSU (1); NAGAI YASUHIRO (1); **SUZUKI NAOBUMI** (1); ICHINOSE YUTAKA (1)
IDENTIFIERS: **wireless** card

8/5,K/16 (Item 4 from file: 94)
DIALOG(R)File 94:JICST-EPlus

04769858 JICST ACCESSION NUMBER: 95A0912090 FILE SEGMENT: JICST-E
A personal phone subsystem using wireless **cards.**
NAGAI YASUHIRO (1); OTANI YOSHIMITSU (1); **SUZUKI NAOBUMI** (1); ICHINOSE YUTAKA (1); KUMAHARA NORIO (2)
(1) Nippon Telegr. and Teleph. Corp., Interdisciplinary Res. Lab.; (2) N FFED T B H. D T B F . CEHF.
Denshi Joho Tsushin Gakkai Taikai Koen Ronbunshu(Proceedings of the IEICE General Conference (Institute of Electronics, Information and Communication Engineers), 1995, VOL.1995,NO.Society B2, PAGE.138, FIG.2, TBL.1, REF.3
JOURNAL NUMBER: G0508AEP
UNIVERSAL DECIMAL CLASSIFICATION: 621.395
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Conference Proceeding
ARTICLE TYPE: Short Communication
MEDIA TYPE: Printed Publication
DESCRIPTORS: cordless telephone; personal communication; link connecting; authentication; microwave communication; electromagnetic coupling; IC card; identification
IDENTIFIERS: **wireless** card
BROADER DESCRIPTORS: telephone; voice communication; telecommunication; land mobile communication; mobile communication; link operating; communication operation; operation(processing); connection; communication system; method; binding and coupling; card(sheet); recognition
CLASSIFICATION CODE(S): ND11030P

A personal phone subsystem using wireless **cards.**
NAGAI YASUHIRO (1); OTANI YOSHIMITSU (1); **SUZUKI NAOBUMI** (1); ICHINOSE YUTAKA (1)
IDENTIFIERS: **wireless** card

8/5,K/17 (Item 5 from file: 94)
DIALOG(R)File 94:JICST-EPlus

04768980 JICST ACCESSION NUMBER: 95A0595989 FILE SEGMENT: JICST-E
Call Forwarding System using Wireless **Cards.**
OTANI YOSHIMITSU (1); NAGAI YASUHIRO (1); **SUZUKI NAOBUMI** (1); ICHINOSE YUTAKA (1); KUMAHARA NORIO (2); KIMACHI YOSHIHIRO (2)
(1) Nippon Telegr. and Teleph. Corp., Interdisciplinary Res. Lab.; (2) N FFED T B H. D T B F . CEHF.
Denshi Joho Tsushin Gakkai Taikai Koen Ronbunshu(Proceedings of the IEICE General Conference (Institute of Electronics, Information and Communication Engineers), 1995, VOL.1995,NO.Sogo Pt 3, PAGE.168, FIG.2, TBL.1, REF.3
JOURNAL NUMBER: G0508AEP
UNIVERSAL DECIMAL CLASSIFICATION: 621.396.73
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Conference Proceeding
ARTICLE TYPE: Short Communication
MEDIA TYPE: Printed Publication
DESCRIPTORS: radio transmission; IC card; communication service; personal communication; PBX(exchange)
BROADER DESCRIPTORS: communication system; method; card(sheet); service; telecommunication; subscriber equipment; communication equipment; facility
CLASSIFICATION CODE(S): ND08080H

Call Forwarding System using Wireless **Cards.**
OTANI YOSHIMITSU (1); NAGAI YASUHIRO (1); **SUZUKI NAOBUMI** (1); ICHINOSE

YUTAKA (1)

8/5,K/18 (Item 6 from file: 94)
DIALOG(R)File 94:JICST-EPlus

04768979 JICST ACCESSION NUMBER: 95A0595988 FILE SEGMENT: JICST-E
Wireless **Cards with Several I/O Devices for Telecommunications.**
NAGAI YASUHIRO (1); **SUZUKI NAOBUMI** (1); OTANI YOSHIMITSU (1); ICHINOSE YUTAKA (1); KUMAHARA NORIO (2)
(1) Nippon Telegr. and Teleph. Corp., Interdisciplinary Res. Lab.; (2) N FFED T B H. D T B F . CEHF.
Denshi Joho Tsushin Gakkai Taikai Koen Ronbunshu(Proceedings of the IEICE General Conference (Institute of Electronics, Information and Communication Engineers), 1995, VOL.1995,NO.Sogo Pt 3, PAGE.167, FIG.3, TBL.1, REF.1
JOURNAL NUMBER: G0508AEP
UNIVERSAL DECIMAL CLASSIFICATION: 621.396.73
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Conference Proceeding
ARTICLE TYPE: Short Communication
MEDIA TYPE: Printed Publication
DESCRIPTORS: IC card; multi-media; communication service; personal communication; paging device; message transmission; radio transmission
BROADER DESCRIPTORS: card(sheet); information media; service; telecommunication; communication apparatus; equipment; communication system; method
CLASSIFICATION CODE(S): ND08030H

Wireless **Cards with Several I/O Devices for Telecommunications.**
NAGAI YASUHIRO (1); **SUZUKI NAOBUMI** (1); OTANI YOSHIMITSU (1); ICHINOSE YUTAKA (1)

8/5,K/19 (Item 7 from file: 94)
DIALOG(R)File 94:JICST-EPlus

04754947 JICST ACCESSION NUMBER: 97A0846169 FILE SEGMENT: JICST-E
Improvement of wireless **tag system using an infrared beam and an electromagnetic wave.**
SUZUKI NAOBUMI (1); OTANI YOSHIMITSU (1); ICHINOSE YUTAKA (1); NAGAI YASUHIRO (2)
(1) Nippon Telegraph and Telephone Corp.; (2) Nippon Telegr. and Teleph. Corp.
Denshi Joho Tsushin Gakkai Taikai Koen Ronbunshu(Proceedings of the IEICE General Conference (Institute of Electronics, Information and Communication Engineers), 1997, VOL.1997,sosaieti B1, PAGE.456, FIG.2, TBL.1, REF.1
JOURNAL NUMBER: G0508AEP
UNIVERSAL DECIMAL CLASSIFICATION: 621.391.6 621.396+
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Conference Proceeding
ARTICLE TYPE: Short Communication
MEDIA TYPE: Printed Publication
DESCRIPTORS: optical communication; infrared radiation; radio transmission; repeater; secondary battery; consumed electric power; solar cell; lifetime extension; miniaturization; identification
BROADER DESCRIPTORS: communication system; method; light; electromagnetic wave; wave motion; communication apparatus; equipment; chemical cell; battery; electric power; photocell; photovoltaic device; photoelectric device; solid state device; physical cell; improvement; modification; recognition
CLASSIFICATION CODE(S): ND10000B; ND08050D

Improvement of wireless **tag system using an infrared beam and an**

electromagnetic wave.
SUZUKI NAOBUMI (1); OTANI YOSHIMITSU (1); ICHINOSE YUTAKA (1)

8/5,K/20 (Item 8 from file: 94)
DIALOG(R)File 94:JICST-EPlus
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04753780 JICST ACCESSION NUMBER: 96A0834023 FILE SEGMENT: JICST-E
Enlargement of Communication Area in Wireless **Mouse System.**
NAGAI YASUHIRO (1); OTANI YOSHIMITSU (1); **SUZUKI NAOBUMI** (1); ICHINOSE YUTAKA (1)
(1) Nippon Telegr. and Teleph. Corp., Interdisciplinary Res. Lab.
Denshi Joho Tsushin Gakkai Taikai Koen Ronbunshu(Proceedings of the IEICE General Conference (Institute of Electronics, Information and Communication Engineers), 1996, VOL.1996,NO.Society D, PAGE.147, FIG.2, TBL.2, REF.1
JOURNAL NUMBER: G0508AEP
UNIVERSAL DECIMAL CLASSIFICATION: 681.327.2
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Conference Proceeding
ARTICLE TYPE: Short Communication
MEDIA TYPE: Printed Publication
DESCRIPTORS: cooperative work; mouse(computer); radio transmission; personal computer
BROADER DESCRIPTORS: groupware; application program; computer program; software; input unit; input output unit; computer peripheral equipment; equipment; communication system; method; digital computer; computer; hardware
CLASSIFICATION CODE(S): JC04050U

Enlargement of Communication Area in Wireless **Mouse System.**
NAGAI YASUHIRO (1); OTANI YOSHIMITSU (1); **SUZUKI NAOBUMI** (1); ICHINOSE YUTAKA (1)

8/5,K/21 (Item 9 from file: 94)
DIALOG(R)File 94:JICST-EPlus
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04753242 JICST ACCESSION NUMBER: 96A0397056 FILE SEGMENT: JICST-E
Co-operative wireless **mouses.**
NAGAI YASUHIRO (1); OTANI YOSHIMITSU (1); **SUZUKI NAOBUMI** (1); ICHINOSE YUTAKA (1)
(1) Nippon Telegr. and Teleph. Corp., Interdisciplinary Res. Lab.
Denshi Joho Tsushin Gakkai Taikai Koen Ronbunshu(Proceedings of the IEICE General Conference (Institute of Electronics, Information and Communication Engineers), 1996, VOL.1996,NO.Sogo Pt 6, PAGE.187, FIG.3, REF.1
JOURNAL NUMBER: G0508AEP
UNIVERSAL DECIMAL CLASSIFICATION: 681.327.2
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Conference Proceeding
ARTICLE TYPE: Short Communication
MEDIA TYPE: Printed Publication
DESCRIPTORS: mouse(computer); radio transmission; cooperative work; personal computer; user interface; computer system(architecture); data input system
IDENTIFIERS: input system
BROADER DESCRIPTORS: input unit; input output unit; computer peripheral equipment; equipment; communication system; method; groupware; application program; computer program; software; digital computer; computer; hardware; interface; system
CLASSIFICATION CODE(S): JC04050U

Co-operative wireless **mouses.**
NAGAI YASUHIRO (1); OTANI YOSHIMITSU (1); **SUZUKI NAOBUMI** (1); ICHINOSE

YUTAKA (1)

8/5,K/22 (Item 10 from file: 94)
DIALOG(R)File 94:JICST-EPlus

04753241 JICST ACCESSION NUMBER: 96A0397055 FILE SEGMENT: JICST-E
Personal Terminal Environment System Using Wireless **Card.**
OTANI YOSHIMITSU (1); NAGAI YASUHIRO (1); **SUZUKI NAOBUMI** (1); ICHINOSE YUTAKA (1)
(1) Nippon Telegr. and Teleph. Corp., Interdisciplinary Res. Lab.
Denshi Joho Tsushin Gakkai Taikai Koen Ronbunshu(Proceedings of the IEICE General Conference (Institute of Electronics, Information and Communication Engineers), 1996, VOL.1996,NO.Sogo Pt 6, PAGE.186, FIG.3, REF.4
JOURNAL NUMBER: G0508AEP
UNIVERSAL DECIMAL CLASSIFICATION: 681.3.02-759
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Conference Proceeding
ARTICLE TYPE: Short Communication
MEDIA TYPE: Printed Publication
DESCRIPTORS: computer security; card(sheet); radio transmission; authentication; individual(person); personal computer; telephone
IDENTIFIERS: **wireless** card
BROADER DESCRIPTORS: security; guarantee; communication system; method; digital computer; computer; hardware; voice communication; telecommunication
CLASSIFICATION CODE(S): JD01020V

Personal Terminal Environment System Using Wireless **Card.**
OTANI YOSHIMITSU (1); NAGAI YASUHIRO (1); **SUZUKI NAOBUMI** (1); ICHINOSE YUTAKA (1)
IDENTIFIERS: **wireless** card

8/5,K/23 (Item 11 from file: 94)
DIALOG(R)File 94:JICST-EPlus

04432058 JICST ACCESSION NUMBER: 99A1014910 FILE SEGMENT: JICST-E
Information Theory and Its Applications. Iterative Processing for Improving Decode Quality in Mobile Multimedia Communications.
YAMASAKI S (1); **TANAKA H** (2); ASANO A (2)
(1) Yrp Mobile Telecommunications Key Technol. Res. Lab. Co., Ltd., Yokosuka-shi, Jpn; (2) Toshiba Corp., Kawasaki-shi, Jpn
IEICE Trans Fundam Electron Commun Comput Sci(Inst Electron Inf Commun Eng), 1999, VOL.E82-A,NO.10, PAGE.2096-2104, FIG.16, REF.14
JOURNAL NUMBER: F0699CAT ISSN NO: 0916-8508
UNIVERSAL DECIMAL CLASSIFICATION: 621.396.73 621.391.037.3 681.3:621.397.3
LANGUAGE: English COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Original paper
MEDIA TYPE: Printed Publication
ABSTRACT: Multimedia communications over mobile networks suffer from fluctuating channel degradation. Conventional error handling schemes consist of the first stage error correction decoding in **wireless** interface and the second stage error correction decoding in multimedia demultiplexer, where the second stage decoding result is not used to improve the first stage decoding performance. To meet the requirements of more powerful error protection, we propose iterative soft-input/soft-output error correction decoding in multimedia communications, where the likelihood output generated by the error correction decoding in multimedia demultiplexer is fed back to the decoding in **wireless** interface and the decoding procedure is iterated. The performances were evaluated by MPEG-4 video transmission

simulation over mobile channels. (author abst.)
DESCRIPTORS: fluctuation; mobile communication; multi-media; sequential decoding; error correction; system interface; multiplexer; statistical decision; feedback; error correcting capability; MPEG; code error; image reproduction
BROADER DESCRIPTORS: fluctuation and variation; telecommunication; information media; decoding; modification; signal processing; treatment ; error control; control; interface; signal transmission equipment; communication apparatus; equipment; decision; statistical method; ability; ISO Standard; international standard; standard(specification); standard; error(mistake); image processing; information processing; regeneration
CLASSIFICATION CODE(S): ND08030H; ND02030R; JE04010I

; **TANAKA H** (2); ASANO A (2)
...ABSTRACT: from fluctuating channel degradation. Conventional error handling schemes consist of the first stage error correction decoding in **wireless** interface and the second stage error correction decoding in multimedia demultiplexer, where the second stage decoding result...

...output generated by the error correction decoding in multimedia demultiplexer is fed back to the decoding in **wireless** interface and the decoding procedure is iterated. The performances were evaluated by MPEG-4 video transmission simulation...

8/5,K/24 (Item 12 from file: 94)
DIALOG(R)File 94:JICST-EPlus

04430909 JICST ACCESSION NUMBER: 99A0990363 FILE SEGMENT: JICST-E
An Iterative Decoding Technique Improving Mobile Multimedia Communication Quality.
YAMASAKI S (1); ASANO A (2); **TANAKA H** (2)
(1) Yrp Key Tech Lab.; (2) Toshiba Corp.
Denshi Joho Tsushin Gakkai Gijutsu Kenkyu Hokoku(IEIC Technical Report (Institute of Electronics, Information and Communication Enginners), 1999, VOL.99,NO.300(SP99 77-85), PAGE.49-54, FIG.9, REF.9
JOURNAL NUMBER: S0532BBG
UNIVERSAL DECIMAL CLASSIFICATION: 621.396.73 621.391.037.3
LANGUAGE: English COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Original paper
MEDIA TYPE: Printed Publication
ABSTRACT: Typical error handling schemes used in multimedia communication over mobile networks have been the turbo error-correction coding used in the **wireless** interface, the convolutional error-correction coding used in the multimedia multiplexer, and the error-resilience source-coding schemes like MPEG-4 video. To provide better error protection in the multimedia communication systems, we propose an iterative error-correction decoding method, in which iterative decoding of the turbo code in the **wireless** interface and the convolutional code in the multimedia multiplexer is carried out. Computer simulation of MPEG-4 video transmission over mobile channels confirmed the effectiveness of this method. (author abst.)
DESCRIPTORS: mobile communication; multi-media; sequential decoding; error correction; MPEG; convolutional code; multiplexer; receiver; signal regeneration
BROADER DESCRIPTORS: telecommunication; information media; decoding; modification; signal processing; treatment; error control; control; ISO Standard; international standard; standard(specification); standard; code; signal transmission equipment; communication apparatus; equipment ; transceiver; regeneration; signal detection; detection
CLASSIFICATION CODE(S): ND08030H; ND02030R

; ASANO A (2); **TANAKA H** (2)
...ABSTRACT: used in multimedia communication over mobile networks have

been the turbo error-correction coding used in the **wireless** interface, the convolutional error-correction coding used in the multimedia multiplexer, and the error-resilience source-coding...

...propose an iterative error-correction decoding method, in which iterative decoding of the turbo code in the **wireless** interface and the convolutional code in the multimedia multiplexer is carried out. Computer simulation of MPEG-4...

8/5,K/25 (Item 13 from file: 94)
DIALOG(R)File 94:JICST-EPlus

04390028 JICST ACCESSION NUMBER: 00A0020820 FILE SEGMENT: JICST-E
A Study on OFDM Synchronization Scheme with Subtraction Operation.
SHIBATA TSUTAYUKI (1); ITO NOBUO (1); FUJIMOTO MITOSHI (1); ITO HIDEAKI (1); **SUZUKI NORIYOSHI** (1); OTSUKA KAZUO (1); YAMAZATO TAKAYA (2); OGAWA AKIRA (2)
(1) Toyota Cent. Res. & Dev. Lab., Inc.; (2) Nagoya Univ.
Denshi Joho Tsushin Gakkai Gijutsu Kenkyu Hokoku(IEIC Technical Report (Institute of Electronics, Information and Communication Enginners), 1999, VOL.99,NO.355(AvP99 124-143), PAGE.97-101, FIG.7, TBL.1, REF.6
JOURNAL NUMBER: S0532BBG
UNIVERSAL DECIMAL CLASSIFICATION: 621.391.1
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Original paper
MEDIA TYPE: Printed Publication
ABSTRACT: An Orthogonal Frequency Division Multiplexing(OFDM) is introduced as the transmission scheme of next generation's multimedia **wireless** systems because of its highly frequency effectiveness and superb anti-multipath performance. In this paper, a novel synchronizing scheme for OFDM signal is proposed. In the proposed scheme, a synchronizing point is detected as the instance when the minimum value of the difference between a part of effective symbol period and a guard interval is obtained. The computer simulation result show the proposed scheme obtains the stable synchronizing points since the fluctuation of correlation value with the proposed scheme is smaller than that with the conventional scheme. Furthermore, a frequency offset detection scheme is also proposed. (author abst.)
DESCRIPTORS: signal synchronization; OFDM; frequency allocation; multipath propagation; noise margin; multi-media; radio transmission; signal detection; frequency discrimination
IDENTIFIERS: spectrum utilization efficiency
BROADER DESCRIPTORS: signal processing; treatment; synchronization; signal multiplex; multiplex; modification; radio wave supervision; communication administration; management; atmospheric propagation; radio wave propagation; electromagnetic wave propagation; wave propagation; propagation(transmission); noise characteristic; characteristic; information media; communication system; method; detection; signal discrimination
CLASSIFICATION CODE(S): ND07020P

SHIBATA TSUTAYUKI (1); ITO NOBUO (1); FUJIMOTO MITOSHI (1); ITO HIDEAKI (1); **SUZUKI NORIYOSHI** (1); OTSUKA KAZUO (1)
ABSTRACT: An Orthogonal Frequency Division Multiplexing(OFDM) is introduced as the transmission scheme of next generation's multimedia **wireless** systems because of its highly frequency effectiveness and superb anti-multipath performance. In this paper, a novel...

8/5,K/26 (Item 14 from file: 94)
DIALOG(R)File 94:JICST-EPlus

04319773 JICST ACCESSION NUMBER: 99A0709976 FILE SEGMENT: JICST-E

Trends in Fixed Wireless **Access System.**
TANAKA HIROYUKI (1)
(1) Minist. of Posts and Telecomm., Telecommun. Bur.
ITU Janaru, 1999, VOL.29,NO.7, PAGE.12-15, FIG.1, TBL.2
JOURNAL NUMBER: L0766ABD ISSN NO: 0916-7544
UNIVERSAL DECIMAL CLASSIFICATION: 621.391.1 621.396.2.029.6/.7
658.8.012+659
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Commentary
MEDIA TYPE: Printed Publication
ABSTRACT: Fixed **Wireless** Access (FWA) system is expected to promote competition of the regional communication market and expand the utilization of multimedia. This paper presents new FWA using semi-millimeter-wave zone and millimeter-wave zone frequency by focusing attention on the system outlines, domestic and foreign situations of wide-band FWA, frequency allocation procedures and participation situations of new FWA, school Internet WLL (**wireless** local loop), and future prospect.
DESCRIPTORS: millimeter wave communication; local loop; **wireless** LAN; frequency allocation; internet; educational facility; wide band; link connecting; market analysis; review
IDENTIFIERS: view
BROADER DESCRIPTORS: communication system; method; communication network; information network; network; LAN; computer network; radio wave supervision; communication administration; management; facility and building; bandwidth; link operating; communication operation; operation(processing); connection; analysis(separation); analysis
CLASSIFICATION CODE(S): ND07010E; ND08020W; KA06030H

Trends in Fixed Wireless **Access System.**
TANAKA HIROYUKI (1)
ABSTRACT: Fixed **Wireless** Access (FWA) system is expected to promote competition of the regional communication market and expand the utilization...

...situations of wide-band FWA, frequency allocation procedures and participation situations of new FWA, school Internet WLL (**wireless** local loop), and future prospect.
...DESCRIPTORS: **wireless** LAN

8/5,K/27 (Item 15 from file: 94)
DIALOG(R)File 94:JICST-EPlus

04231779 JICST ACCESSION NUMBER: 99A0670061 FILE SEGMENT: JICST-E
An Iterative Decode Quality Improvement Method in Mobile Multimedia Communications and Performance Evaluation Using MPEG-4 Video.
YAMASAKI S (1); ASANO A (2); **TANAKA H** (2)
(1) Yrp Mobile Telecommunications Key Technol. Res. Lab. Co., Ltd., Yokosuka, Jpn; (2) Toshiba Corp.
Denshi Joho Tsushin Gakkai Gijutsu Kenkyu Hokoku(IEIC Technical Report (Institute of Electronics, Information and Communication Enginners), 1999, VOL.99,NO.104(CAS99 11-29), PAGE.59-66, FIG.14, REF.9
JOURNAL NUMBER: S0532BBG
UNIVERSAL DECIMAL CLASSIFICATION: 621.391.1 621.396.73
LANGUAGE: English COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Original paper
MEDIA TYPE: Printed Publication
ABSTRACT: Multimedia communications over mobile networks suffer from fluctuating channel degradation. To protect the transmitted information in the error-prone environments, we propose a powerful error resilience scheme which uses an iterative soft-input/soft-output decoding of error correction codes in multimedia multiplexer and **wireless** interface. The performances were evaluated by MPEG-4 video transmission simulation

over mobile channels. (author abst.)
DESCRIPTORS: mobile communication; picture communication; decoding; error correction; MPEG; multi-media; signal reception; communication characteristic
BROADER DESCRIPTORS: telecommunication; modification; signal processing; treatment; error control; control; ISO Standard; international standard ; standard(specification); standard; information media; signal transmission; characteristic
CLASSIFICATION CODE(S): ND07020F; ND08030H

; ASANO A (2); **TANAKA H** (2)
...ABSTRACT: which uses an iterative soft-input/soft-output decoding of error correction codes in multimedia multiplexer and **wireless** interface. The performances were evaluated by MPEG-4 video transmission simulation over mobile channels. (author abst.)

8/5,K/28 (Item 16 from file: 94)
DIALOG(R)File 94:JICST-EPlus

03830686 JICST ACCESSION NUMBER: 98A0957004 FILE SEGMENT: JICST-E
Worldwide Status and Trend in Personal Wireless **Communications.**
SAITO TADAO (1); **TANAKA HIROSHI** (2)
(1) Univ. of Tokyo; (2) Ntt
Joho Shori, 1998, VOL.39,NO.10, PAGE.1027-1030, FIG.3, TBL.5, REF.18
JOURNAL NUMBER: G0427AAZ ISSN NO: 0447-8053
UNIVERSAL DECIMAL CLASSIFICATION: 681.3:654 621.396.73
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Review article
MEDIA TYPE: Printed Publication
ABSTRACT: A demand of personal **wireless** communication (PWC) which realizes the personal communication through radio has been rapidly increased. And, the development on the multi-media PWC system is rapidly advancing. This paper describes the present state of PWC and the future development including the trend in the world. The development of two protocols of PWC technology, cellular system and cordless system, are listed and the trends of IMT2000 (International Mobile Telecommunication 2000), MMAC (Multimedia Mobile Access Communication), and personal satellite communication are described. Also the future direction and technological issues are mentioned.
DESCRIPTORS: personal communication; cellular communications; car communication; portable telephone; cordless telephone; multi-media; satellite communication; **wireless** LAN; radio transmission; CDMA; TDMA
BROADER DESCRIPTORS: telecommunication; mobile communication; land mobile communication; telephone; voice communication; information media; space communication; LAN; computer network; communication network; information network; network; communication system; method; multiple access communication
CLASSIFICATION CODE(S): JC03000K; ND08030H

Worldwide Status and Trend in Personal Wireless **Communications.**
; **TANAKA HIROSHI** (2)
ABSTRACT: A demand of personal **wireless** communication (PWC) which realizes the personal communication through radio has been rapidly increased. And, the development on...
...DESCRIPTORS: **wireless** LAN

8/5,K/29 (Item 17 from file: 94)
DIALOG(R)File 94:JICST-EPlus

03659220 JICST ACCESSION NUMBER: 98A0788407 FILE SEGMENT: JICST-E
Comparison of the Configuration of DOA Sensors for Wireless **Vehicle Location.**

SUZUKI NOBUHIRO (1); OKAMURA ATSUSHI (1); FUJISAKA TAKAHIKO (1)
(1) Mitsubishi Electr. Corp.
Denshi Joho Tsushin Gakkai Gijutsu Kenkyu Hokoku(IEIC Technical Report (Institute of Electronics, Information and Communication Enginners), 1998, VOL.98,NO.215(SANE98 31-40), PAGE.53-57, FIG.6, REF.2
JOURNAL NUMBER: S0532BBG
UNIVERSAL DECIMAL CLASSIFICATION: 656.1.07 531.71/.74
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Original paper
MEDIA TYPE: Printed Publication
ABSTRACT: In the Electronic Toll Collection system, It is necessary to locate a vehicle with a **wireless** unit in order to collect highway toll property. We proposed two configurations of two DOA sensors for such purpose. One configuration is that horizontal DOA sensor and vertical DOA sensor are set above the center of the road. Another configuration is that two horizontal DOA sensors are set on both sides of the road. Since only two DOA angles are available in the both configurations, assumption of the height of **wireless** unit is required. In this report, we investigate positioning errors caused by the height assumption error. In the former configuration, positioning error caused by the height assumption error is minimum at just below the DOA sensors and the farther from the sensors a vehicle is, the larger the positioning error is. In the latter configuration, across-road positioning error is not affected by the height assumption error, but the nearer from the sensors a vehicle is, the larger belong-road positioning error caused by the height assumption error is. (author abst.)
DESCRIPTORS: angle measurement; sensor; toll gate; mounted communication apparatus; position measurement; direction finding; error analysis; array antenna
BROADER DESCRIPTORS: measurement; instrumentation element; transport service facilities; facility and building; communication apparatus; equipment; communication application; utilization; analysis; theory of errors; mathematics; antenna(electric)
CLASSIFICATION CODE(S): TB01060R; AD050200

Comparison of the Configuration of DOA Sensors for Wireless **Vehicle Location.**
SUZUKI NOBUHIRO (1); OKAMURA ATSUSHI (1); FUJISAKA TAKAHIKO (1)
ABSTRACT: In the Electronic Toll Collection system, It is necessary to locate a vehicle with a **wireless** unit in order to collect highway toll property. We proposed two configurations of two DOA sensors for...

...road. Since only two DOA angles are available in the both configurations, assumption of the height of **wireless** unit is required. In this report, we investigate positioning errors caused by the height assumption error. In...

8/5,K/30 (Item 18 from file: 94)
DIALOG(R)File 94:JICST-EPlus

03610524 JICST ACCESSION NUMBER: 98A0527844 FILE SEGMENT: JICST-E
A Vehicle Positioning System Using a Couple of DOA Sensors.
SUZUKI NOBUHIRO (1); OKAMURA ATSUSHI (1); KIRIMOTO TETSUO (1); TOGE MAKOTO (2); KOMAKI MASAHIKO (2)
(1) Mitsubishi Electric Corp.; (2) Mitsubishi Electr. Corp., Kamakura Work.
Denshi Joho Tsushin Gakkai Gijutsu Kenkyu Hokoku(IEIC Technical Report (Institute of Electronics, Information and Communication Enginners), 1998, VOL.98,NO.7(SANE98 1-13), PAGE.27-32, FIG.12, REF.2
JOURNAL NUMBER: S0532BBG
UNIVERSAL DECIMAL CLASSIFICATION: 656.1.07 531.71/.74
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Original paper

MEDIA TYPE: Printed Publication
ABSTRACT: In order to distinguish vehicles without **wireless** units from those with the units, it is necessary to locate the positions of the **wireless** units in the free flow Electronic Toll Collection system. We has been proposed the positioning method using two direction finders located above the center of the road, one of which estimates horizontal angle and the other estimates vertical angle. In the method, height of the **wireless** units must be assumed to complete positioning but the assumption causes positioning errors. In this report, we analyze the relation between the assumption errors and the positioning errors. Physical experiments are also carried out in order to estimate DOA errors of direction finders using array antennas and verify the above analysis. (author abst.)
DESCRIPTORS: position measurement; positioning; array antenna; azimuth measurement; toll gate; position sensor; error analysis; traffic actuation detector; expressway; automobile; road transportation; direction; signal discrimination; direction finding
BROADER DESCRIPTORS: measurement; antenna(electric); angle measurement; transport service facilities; facility and building; sensor; instrumentation element; analysis; theory of errors; mathematics; traffic control device; road; land transportation; transportation; signal detection; detection; communication application; utilization
CLASSIFICATION CODE(S): TB01060R; AD05020O

SUZUKI NOBUHIRO (1); OKAMURA ATSUSHI (1); KIRIMOTO TETSUO (1)
ABSTRACT: In order to distinguish vehicles without **wireless** units from those with the units, it is necessary to locate the positions of the **wireless** units in the free flow Electronic Toll Collection system. We has been proposed the positioning method using...
...of which estimates horizontal angle and the other estimates vertical angle. In the method, height of the **wireless** units must be assumed to complete positioning but the assumption causes positioning errors. In this report, we...

8/5,K/31 (Item 19 from file: 94)
DIALOG(R)File 94:JICST-EPlus

03565803 JICST ACCESSION NUMBER: 98A0461098 FILE SEGMENT: JICST-E
Narrow-Band Interference Rejection Using Magnetostatic Wave Filter in SS Communications.
TANAKA HIROAKI (1); KOUCHI TETSUYA (1); KANAYA FUMIO (1); NAKANISHI MOTOI (1); ISHIKAWA YOHEI (1); MORI YASUYUKI (2); KONO RYUJI (2)
(1) Murata Manuf. Co., Ltd.; (2) Yokohama Natl. Univ., Fac. of Eng.
Denshi Joho Tsushin Gakkai Gijutsu Kenkyu Hokoku(IEIC Technical Report (Institute of Electronics, Information and Communication Enginners), 1998, VOL.97,NO.612(ISEC97 87-110), PAGE.97-102, FIG.11, TBL.3, REF.8
JOURNAL NUMBER: S0532BBG
UNIVERSAL DECIMAL CLASSIFICATION: 621.396.2.029.6/.7
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Original paper
MEDIA TYPE: Printed Publication
ABSTRACT: It is possible to use both direct sequence spread spectrum(DS/SS) communication system and conventional narrow-band communication one at the same time. But strong narrow-band signals cause errors in DS/SS demodulation if such narrow-band interference is stronger than DS/SS inherent capability of suppressing interference, Magnetostatic wave filters can make a threshold limit level of signals in frequency domain. Interference narrow-band signals with a peak of frequency spectrum can be removed by this non-linear filter without losing DS/SS signals. A reasonable result is obtained from the comparison with the result of the computer simulation and the experiment of 2.4GHz **wireless** communication modules. (author abst.)
DESCRIPTORS: spread spectrum communication; narrow band; ferrite; magnetostatic wave; noise reduction; electromagnetic compatibility;

error rate; code error; filter
BROADER DESCRIPTORS: communication system; method; bandwidth; spin wave; wave motion; reduction; variation; interference; electric interference; disorder/trouble/obstacle; ratio; error(mistake)
CLASSIFICATION CODE(S): ND08020W

TANAKA HIROAKI (1); KOUCHI TETSUYA (1); KANAYA FUMIO (1); NAKANISHI MOTOI (1); ISHIKAWA YOHEI (1)
...ABSTRACT: obtained from the comparison with the result of the computer simulation and the experiment of 2.4GHz **wireless** communication modules. (author abst.)

8/5,K/32 (Item 20 from file: 94)
DIALOG(R)File 94:JICST-EPlus

03475670 JICST ACCESSION NUMBER: 97A0833393 FILE SEGMENT: JICST-E
Personal environment and location management system using wireless **card.**
OTANI YOSHIMITSU (1); YAMAMOTO HIDEAKI (1); **SUZUKI NAOBUMI** (1); ICHINOSE YUTAKA (1)
(1) Nippon Telegraph and Telephone Corp.
Joho Shori Gakkai Wakushoppu Ronbunshu, 1997, VOL.97,NO.2, PAGE.245-249, FIG.9, TBL.3
JOURNAL NUMBER: L1697AAO
UNIVERSAL DECIMAL CLASSIFICATION: 621.396.73
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Conference Proceeding
ARTICLE TYPE: Original paper
MEDIA TYPE: Printed Publication
ABSTRACT: First, the technology of **wireless** card is outlined from the viewpoint of transmission distance, communication system and application, and the standardization trend of IC identification card in ISO/IEC is described. Next, an active type **wireless** card capable of the transmission with 300MHz weak radio waves is introduced. It is featured by the lock-key concept that the card and base station in the distance within one's working space are symbolized to the lock and key, and also by the adequate distance for locating of a moving person within 10m as valid communication distance. The features of the system to which this card is applied are summarized as following.1) PC Key locking which copes with the PC user or the short time absence.2) Access key to personal environment with telephone call automatic forwarding.3) Location detecting, the information display function of card position. In addition, this paper deals with the positioning of **wireless** card in the application field and the technical prospect.
DESCRIPTORS: mobile communication; IC card; positioning; identification; duplex communication; security system; access control; international standard; UHF wave; base station; data protection; authentication
BROADER DESCRIPTORS: telecommunication; card(sheet); recognition; communication system; method; system; control; standard(specification); standard; microwave; radio wave; electromagnetic wave; wave motion; radio station; communication station; communication establishment; facility and building; protection
CLASSIFICATION CODE(S): ND08030H

Personal environment and location management system using wireless **card.**
OTANI YOSHIMITSU (1); YAMAMOTO HIDEAKI (1); **SUZUKI NAOBUMI** (1); ICHINOSE YUTAKA (1)
ABSTRACT: First, the technology of **wireless** card is outlined from the viewpoint of transmission distance, communication system and application, and the standardization trend of IC identification card in ISO/IEC is described. Next, an active type **wireless** card capable of the transmission with 300MHz weak radio waves is introduced. It is featured by the...

...detecting, the information display function of card position. In addition, this paper deals with the positioning of **wireless** card in

the application field and the technical prospect.

8/5,K/33 (Item 21 from file: 94)
DIALOG(R)File 94:JICST-EPlus

03412150 JICST ACCESSION NUMBER: 97A0970297 FILE SEGMENT: JICST-E
A Study on Multiplexing Scheme over Mobile Multimedia Networks.
TANAKA H (1); SAITO T (1); YAMASAKI S (1)
(1) Toshiba Corp., Kawasaki, JPN
Denshi Joho Tsushin Gakkai Gijutsu Kenkyu Hokoku(IEIC Technical Report (Institute of Electronics, Information and Communication Enginners), 1997, VOL.97,NO.295(IN97 69-97), PAGE.105-110, FIG.5, REF.3
JOURNAL NUMBER: S0532BBG
UNIVERSAL DECIMAL CLASSIFICATION: 621.396.73
LANGUAGE: English COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Original paper
MEDIA TYPE: Printed Publication
ABSTRACT: A multimedia communication needs a multiplexer which mixes various types of media such as video, voice, audio and data into a single bitstream. ITU-T has standardized H.223 protocol for low-bit-rate communications. The communication over mobile networks requires robustness against transmission errors. ITU-T is now standardizing H.223 Annexes for mobile applications and ISO is also standardizing MPEG-4, considering such applications. This paper proposes a multimedia multiplexing scheme over **wireless** mobile channels based on H.223 and its error correction scheme. (author abst.)
DESCRIPTORS: mobile communication; multi-media; signal multiplex; protocol; error correction; multiplexer
BROADER DESCRIPTORS: telecommunication; information media; signal processing; treatment; multiplex; modification; rule; error control; control; signal transmission equipment; communication apparatus; equipment
CLASSIFICATION CODE(S): ND08030H

TANAKA H (1); SAITO T (1); YAMASAKI S (1)
...ABSTRACT: ISO is also standardizing MPEG-4, considering such applications. This paper proposes a multimedia multiplexing scheme over **wireless** mobile channels based on H.223 and its error correction scheme. (author abst.)

8/5,K/34 (Item 22 from file: 94)
DIALOG(R)File 94:JICST-EPlus

03373869 JICST ACCESSION NUMBER: 97A0934237 FILE SEGMENT: JICST-E
Error Correction Decoding Methods on Multimedia Multiplexing for Mobile Communication.
YAMASAKI S (1); **TANAKA H** (1); SAITO T (1)
(1) TOSHIBA Corp. Kawasaki, JPN
Denshi Joho Tsushin Gakkai Gijutsu Kenkyu Hokoku(IEIC Technical Report (Institute of Electronics, Information and Communication Enginners), 1997, VOL.97,NO.254(IT97 41-52), PAGE.35-40, FIG.6, REF.12
JOURNAL NUMBER: S0532BBG
UNIVERSAL DECIMAL CLASSIFICATION: 621.391.037.3
LANGUAGE: English COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Original paper
MEDIA TYPE: Printed Publication
ABSTRACT: A multimedia communication needs a multilexer which mixes various types of media such as video, voice, audio and data into a single bitstream. ITU-T has standardized H.223 protocol for low-bir-rate communications. The communication over mobile networks requires robustness against transmission errors. ITU-T is now standardizing a

modified version of H.223 and ISO is also standardizing MPEG4, considering such applications. This study proposes a multimedia multiplexing scheme over **wireless** mobile channels based on H.223 and its error correction decoding method using a muximum likelihood estimation and an iterative procedure. (author abst.)
DESCRIPTORS: multi-media; signal multiplex; mobile communication; error correction; sequential decoding; protocol; international standard; BCH code; channel coding; computer simulation; ITU-T
BROADER DESCRIPTORS: information media; signal processing; treatment; multiplex; modification; telecommunication; error control; control; decoding; rule; standard(specification); standard; cyclic code; block code; code; coding(signal); computer application; utilization; simulation; ITU; United Nations; international organization
CLASSIFICATION CODE(S): ND02030R

YAMASAKI S (1); **TANAKA H** (1); SAITO T (1)
...ABSTRACT: and ISO is also standardizing MPEG4, considering such applications. This study proposes a multimedia multiplexing scheme over **wireless** mobile channels based on H.223 and its error correction decoding method using a muximum likelihood estimation...

8/5,K/35 (Item 23 from file: 94)
DIALOG(R)File 94:JICST-EPlus
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02791817 JICST ACCESSION NUMBER: 96A0560911 FILE SEGMENT: JICST-E
Wireless **mouse system where a number of mice share a cursor on a personal computer.**
NAGAI YASUHIRO (1); OTANI YOSHIMITSU (1); **SUZUKI NAOBUMI** (1); ICHINOSE YUTAKA (1)
(1) Nippon Telegr. and Teleph. Corp., Interdisciplinary Res. Lab.
Denshi Joho Tsushin Gakkai Gijutsu Kenkyu Hokoku(IEIC Technical Report (Institute of Electronics, Information and Communication Enginners), 1996, VOL.96,NO.70(OFS96 1-9), PAGE.33-38, FIG.5, TBL.3, REF.8
JOURNAL NUMBER: S0532BBG
UNIVERSAL DECIMAL CLASSIFICATION: 681.327.2
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Original paper
MEDIA TYPE: Printed Publication
ABSTRACT: A **wireless** mouse system, in which a cursor on a personal computer is shared by a number of mice, has been designed and developed for cooperative work. Based on such considerations as wide usage, a serial mouse type is adapted for personal computers of DOS/V and Windows. The mouse system is composed of a base station and multiple **wireless** mice that have almost the same hardware and software, and their functions are selected by a switch. In the prototype system, the communication area has a radius of about 5m, and the communication time between the base station and each **wireless** mouse is about 36ms. (author abst.)
DESCRIPTORS: mouse(computer); mobile communication; cursor; groupware; service area; personal computer; control system(computer); versatility; human interface; cooperative work
BROADER DESCRIPTORS: input unit; input output unit; computer peripheral equipment; equipment; telecommunication; application program; computer program; software; zone; digital computer; computer; hardware; method; property; performance; interface
CLASSIFICATION CODE(S): JC04050U

Wireless **mouse system where a number of mice share a cursor on a personal computer.**
NAGAI YASUHIRO (1); OTANI YOSHIMITSU (1); **SUZUKI NAOBUMI** (1); ICHINOSE YUTAKA (1)
ABSTRACT: A **wireless** mouse system, in which a cursor on a personal computer is shared by a number of mice...

...computers of DOS/V and Windows. The mouse system is composed of a base station and multiple **wireless** mice that have almost the same hardware and software, and their functions are selected by a switch...

...area has a radius of about 5m, and the communication time between the base station and each **wireless** mouse is about 36ms. (author abst.)

8/5,K/36 (Item 24 from file: 94)
DIALOG(R)File 94:JICST-EPlus

02782963 JICST ACCESSION NUMBER: 96A0636507 FILE SEGMENT: JICST-E
Examination of wireless **IC tag system applying to metal equipment.**
SUZUKI NAOBUMI (1); NAGAI YASUHIRO (1); OTANI YOSHIMITSU (1); ICHINOSE YUTAKA (1)
(1) Nippon Telegr. and Teleph. Corp., Interdisciplinary Res. Lab.
Denshi Joho Tsushin Gakkai Gijutsu Kenkyu Hokoku(IEIC Technical Report (Institute of Electronics, Information and Communication Enginners), 1996, VOL.96,NO.99(SST96 1-14), PAGE.43-48, FIG.9, REF.7
JOURNAL NUMBER: S0532BBG
UNIVERSAL DECIMAL CLASSIFICATION: 620.179:669 621.396.9
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Original paper
MEDIA TYPE: Printed Publication
ABSTRACT: We examine the feasibility of applying **wireless** IC tags to a management system for facilities with metal parts. The magnetic field distribution in a hole formed in a metal plate is analyzed using the finite element method. The magnetic field intensity perpendicular to the metal surface decreases greatly with depth below the surface. By contrast, the field intensity parallel to the surface decreases slightly with depth. These results suggest the possibility of realizing a management system for facilities with metal parts using the **wireless** IC tag, if the magnetic field parallel to the metal surface is employed. (author abst.)
DESCRIPTORS: identification; IC card; radio transmission; electromagnetic induction inspection; metal; manhole; magnetic flux distribution; electromagnetic field analysis
BROADER DESCRIPTORS: recognition; card(sheet); communication system; method ; electromagnetic test; nondestructive inspection; inspection; magnetic flux; flux; distribution; analysis
CLASSIFICATION CODE(S): HB02030F; ND15000K

Examination of wireless **IC tag system applying to metal equipment.**
SUZUKI NAOBUMI (1); NAGAI YASUHIRO (1); OTANI YOSHIMITSU (1); ICHINOSE YUTAKA (1)
ABSTRACT: We examine the feasibility of applying **wireless** IC tags to a management system for facilities with metal parts. The magnetic field distribution in a...

...These results suggest the possibility of realizing a management system for facilities with metal parts using the **wireless** IC tag, if the magnetic field parallel to the metal surface is employed. (author abst.)

8/5,K/37 (Item 25 from file: 94)
DIALOG(R)File 94:JICST-EPlus

02589363 JICST ACCESSION NUMBER: 95A1017340 FILE SEGMENT: JICST-E
A personal multi-functional wireless **card and related communication equipment for an automatic call forwarding service.**
NAGAI YASUHIRO (1); OTANI YOSHIMITSU (1); **SUZUKI NAOBUMI** (1); ICHINOSE YUTAKA (1); KUMAHARA NORIO (2)
(1) Nippon Telegr. and Teleph. Corp., Interdisciplinary Res. Lab.; (2)

Nippon Telegr. and Teleph. Corp., Telecommun. Networks Lab.
Denshi Joho Tsushin Gakkai Gijutsu Kenkyu Hokoku(IEIC Technical Report (Institute of Electronics, Information and Communication Enginners), 1995, VOL.95,NO.324(EMCJ95 38-50), PAGE.71-76, FIG.6, TBL.5, REF.6
JOURNAL NUMBER: S0532BBG
UNIVERSAL DECIMAL CLASSIFICATION: 621.395
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Original paper
MEDIA TYPE: Printed Publication
ABSTRACT: A new multi-functional card with a display, sounder and input keys, and related communication equipment, such as a microwave base station and a contactless surface reader/writer, have been developed to perform the functions of positioning, paging, returning a message and identity certification for an automatic call forwarding service. Microwave and contactless communication functions in the card handle the automatic call forwarding and identity certification, respectively. We confirmed that the subsystem constructed by above equipment was capable of providing a simple and automatic call forwarding service. (author abst.)
DESCRIPTORS: telephone; communication exchanging; IC card; data transfer; personal communication; mobile communication; microwave communication
BROADER DESCRIPTORS: voice communication; telecommunication; exchange; switching; card(sheet); communication system; method
CLASSIFICATION CODE(S): ND11030P

A personal multi-functional wireless **card and related communication equipment for an automatic call forwarding service.**
NAGAI YASUHIRO (1); OTANI YOSHIMITSU (1); **SUZUKI NAOBUMI** (1); ICHINOSE YUTAKA (1)

8/5,K/38 (Item 26 from file: 94)
DIALOG(R)File 94:JICST-EPlus

02007771 JICST ACCESSION NUMBER: 94A0346589 FILE SEGMENT: JICST-E
An Experimental ISM band SS Wireless **LAN System Using Parallel Combinatory Spread Spectrum Communication System.**
TANAKA HIROYUKI (1); OTA KOJI (1); MARUBAYASHI GEN (1)
(1) Technological Univ. of Nagaoka
Denshi Joho Tsushin Gakkai Gijutsu Kenkyu Hokoku(IEIC Technical Report (Institute of Electronics, Information and Communication Enginners), 1994, VOL.93,NO.538(SST93 90-99), PAGE.19-24, FIG.13, TBL.2, REF.4
JOURNAL NUMBER: S0532BBG
UNIVERSAL DECIMAL CLASSIFICATION: 621.391.1 681.3:654
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Original paper
MEDIA TYPE: Printed Publication
ABSTRACT: In this paper, experimental results of ISM band high speed SS **wireless** LAN system using parallel combinatory spread spectrum communication system are described. In the experimental system, to achieve rapid and reliable aquisition, synchronous signal is transmitted separately by a quadrature modulation method. Results of experiment show several dB difference from the theoretical value so that further improvement in circuit construction seems to be necessary. (author abst.)
DESCRIPTORS: spread spectrum communication; LAN; UHF; synchronizing signal; matched filter; quadrature modulation; parallel processing; data communication; pseudonoise sequence; phase locked loop
BROADER DESCRIPTORS: communication system; method; computer network; communication network; information network; network; frequency(Hz); frequency; reference signal; signal; filter(signal); filter; signal modulation; signal processing; treatment; telecommunication; random signal
CLASSIFICATION CODE(S): ND07010E; JC03000K

An Experimental ISM band SS Wireless **LAN System Using Parallel Combinatory Spread Spectrum Communication System.**
TANAKA HIROYUKI (1); OTA KOJI (1); MARUBAYASHI GEN (1)
ABSTRACT: In this paper, experimental results of ISM band high speed SS **wireless** LAN system using parallel combinatory spread spectrum communication system are described. In the experimental system, to achieve...

8/5,K/39 (Item 1 from file: 103)
DIALOG(R)File 103:Energy SciTec

04272657 JP-97-0H0583; EDB-98-033072
Title: Heavy automatic guided vehicle contributing to automatic physical distribution
Original Title: Butsuryu no jidoka no waku wo hirogeta juryobutsu mujin hansosha
Author(s): **Tanaka, H.** (Meidensha Corp., Tokyo (Japan))
Source: Meiden Jiho v 254. Coden: MEJIEV ISSN: 0386-1570
Publication Date: 30 Jun 1997
p 17-19
Document Type: Journal Article
Language: Japanese
Journal Announcement: EDB9809
Subfile: ETD (Energy Technology Data Exchange). NEDO (Japan (sent to DOE from))
US DOE Project/NonDOE Project: NP
Country of Origin: Japan
Country of Publication: Japan
Abstract: The high-performance automatic guided vehicle (AGV) for heavy loads was put on the market. The AGV of 20t at maximum carrying capacity, nearly 7.2m in overall length and nearly 1.5m in overall width is the three-wheel magnetic guided vehicle of front wheel steering/driving. The AGV is also equipped with a hydraulic lifter type transfer equipment of 100mm in stroke, and allows the maximum traveling speed as high as 40m/min and continuous operation time as long as 8 hours. Main features of this AGV are as follows: (1) The energy saving platform of a load/dead load ratio as high as 3.5 and a height as low as 420mm including a lifter, (2) The small spin turn function for accurate cargo handling in limited places regardless of the large platform, (3) The all- weather outdoor type platform coated with salt damage resistant paint, maintenance/inspection work possible on the platform, and sealed grease lubrication, and (4) The **wireless** centralized control system for waiting control at crossings and command control of traveling routes. 7 figs., 3 tabs.
Descriptors: AUTOMATION; CARGO; ENERGY CONSERVATION; LUBRICATION; MAINTENANCE; PERFORMANCE; TRANSPORTATION SYSTEMS; VEHICLES; VELOCITY; WEIGHT
Subject Categories: 320303* -- Energy Conservation, Consumption, & Utilization -- Industrial & Agricultural Processes -- Equipment & Processes
330600 -- Advanced Propulsion Systems -- Vehicle Design Factors

Author(s): **Tanaka, H.** (Meidensha Corp., Tokyo (Japan))
...Abstract: damage resistant paint, maintenance/inspection work possible on the platform, and sealed grease lubrication, and (4) The **wireless** centralized control system for waiting control at crossings and command control of traveling routes. 7 figs., 3...

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Set     Items   Description
S1     558454   WIRELESS OR WIRE()LESS OR RADIO? OR (ELECTROMAGNETIC? OR R-
             ADIO)()WAVE? OR RF OR IR OR INFRARED OR INFRA()RED OR BLUETOO-
             TH
S2     210914   (MOBILE OR PORTABLE OR CELLULAR OR CELL)(2W)(DEVICE? OR TE-
             LECOMMUNICATION? OR COMPUTER? OR PHONE? OR TELEPHONE? OR TERM-
             INAL) OR CELLPHONE? OR CELL()PHONE? OR LIMITED()CAPABILITY()D-
             EVICE? OR CELLULAR
S3       4666   SHORT(5N)RANGE
S4    2248219   STORE? ? OR STORAGE OR MEMORY OR PROM OR RAM OR ROM OR REP-
             OSITORY? OR BUFFER? OR CACHE?
S5     692725   SERVER? OR PROCESSOR? OR HOST? OR PROVIDER?(N)RESOURCE? OR
             REPOSITOR? OR REMOTE()STORAGE OR NODE?
S6      84891   PDA OR PALM OR BLACKBERRY OR VIZOR OR PALMTOP OR HANDHELD -
             OR HAND()HELD OR NEWTON OR PERSONAL()DIGITAL()ASSISTAN? OR NO-
             TEBOOK? OR NODE()PCU OR PALMPILOT OR PALM()(PILOT? OR TOP OR -
             TOPS) OR ORGANIZER? OR INFORMATION()TERMINAL?
S7         33   S1 AND S2 AND S3 AND S4 AND S5
S8         19   S6 AND S3 AND S4 AND S5
S9         40   S7 OR S8
S10        14   S9 AND IC=(G06F? OR G10K? OR G10L?)
S11         0   S9 AND MC=(G01-H OR W04-V OR W04-V05G)
File 347:JAPIO Nov 1976-2003/Dec(Updated 040402)
        (c) 2004 JPO & JAPIO
File 350:Derwent WPIX 1963-2004/UD,UM &UP=200430
        (c) 2004  Thomson Derwent
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Set	Items	Description
S1	5675	WIRELESS OR WIRE()LESS OR RADIO? OR (ELECTROMAGNETIC? OR RADIO)()WAVE? OR RF OR IR OR INFRARED OR INFRA()RED OR BLUETOOTH
S2	2369	(MOBILE OR PORTABLE OR CELLULAR OR CELL)(2W)(DEVICE? OR TELECOMMUNICATION? OR COMPUTER? OR PHONE? OR TELEPHONE? OR TERMINAL) OR CELLPHONE? OR CELL()PHONE? OR LIMITED()CAPABILITY()DEVICE? OR CELLULAR
S3	103	SHORT(5N)RANGE
S4	19564	STORE? ? OR STORAGE OR MEMORY OR PROM OR RAM OR ROM OR REPOSITORY? OR BUFFER? OR CACHE?
S5	34197	SERVER? OR PROCESSOR? OR HOST? OR PROVIDER?(N)RESOURCE? OR REPOSITOR? OR REMOTE()STORAGE OR NODE?
S6	3681	PDA OR PALM OR BLACKBERRY OR VIZOR OR PALMTOP OR HANDHELD OR HAND()HELD OR NEWTON OR PERSONAL()DIGITAL()ASSISTAN? OR NOTEBOOK? OR NODE()PCU OR PALMPILOT OR PALM()(PILOT? OR TOP OR TOPS) OR ORGANIZER? OR INFORMATION()TERMINAL?
S7	1	S1 AND S2 AND S3 AND S4 AND S5
S8	2	S6 AND S3 AND S4 AND S5
S9	2	S7 OR S8
S10	1	S9 NOT PY>2000
S11	1	S10 NOT PD>20000204

File 256:SoftBase:Reviews,Companies&Prods. 82-2004/Apr

00118564 DOCUMENT TYPE: Review

PRODUCT NAMES: Microsoft Windows CE (633119); Microsoft Windows 2000 (722367)

TITLE: Next Generation (or Two) of Win CE

AUTHOR: Nadel, Brian

SOURCE: Mobile Computing & Communications, v10 n8 p59(1) Aug 1999
ISSN: 1047-5567
HOMEPAGE: http://www.mobilecomputing.com

RECORD TYPE: Review
REVIEW TYPE: Product Analysis
GRADE: Product Analysis, No Rating

Microsoft Windows CE is becoming a full-functioned **handheld** operating system, but Microsoft's next challenge is to make it attractive to corporate users as the preferred platform for use by professionals operating in the growing 'ultramobile office.' A version of Terminal **Server** will at some point in time be available for Windows CE, so that mobile buyers can provide users with a barebones set of applications and allow them to download software from a Windows 2000 **server** as needed. The average traveler would link remotely and run centrally **stored** applications with a mixture of local- and **server** -based data while traveling. Microsoft also has Cedar technology under development, an upgrade that will provide Plug and Play support for external devices. This critical feature will allow systems to link to other devices, including CD-ROMs and printers. Windows CE users will be particularly pleased when Bluetooth devices become widely available. Bluetooth is a de facto standard for **short - range** wireless and will be very useful in interlinking small systems and linking devices universally in the business environment overall. Microsoft also plans the Rapier upgrade for PPCs, the smallest CE platform. The interface will have a more Web-like metaphor, similar to the desktop and **notebook** versions, and the use of cascading menus will ease navigation.

COMPANY NAME: Microsoft Corp (112127)
DESCRIPTORS: Handhelds & Palmtops; Mobile Computing; Operating Systems; Telecommuting; Windows CE; Windows NT/2000
REVISION DATE: 20000830

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Set     Items   Description
S1    1842882   WIRELESS OR WIRE()LESS OR RADIO? OR (ELECTROMAGNETIC? OR R-
               ADIO)()WAVE? OR RF OR IR OR INFRARED OR INFRA()RED OR BLUETOO-
               TH
S2     294191   (MOBILE OR PORTABLE OR CELLULAR OR CELL)(2W)(DEVICE? OR TE-
               LECOMMUNICATION? OR COMPUTER? OR PHONE? OR TELEPHONE? OR TERM-
               INAL) OR CELLPHONE? OR CELL()PHONE? OR LIMITED()CAPABILITY()D-
               EVICE? OR CELLULAR
S3      49421   SHORT(5N)RANGE
S4    1170293   STORE? ? OR STORAGE OR MEMORY OR PROM OR RAM OR ROM OR REP-
               OSITORY? OR BUFFER? OR CACHE?
S5     716494   SERVER? OR PROCESSOR? OR HOST? OR PROVIDER?(N)RESOURCE? OR
               REPOSITOR? OR REMOTE()STORAGE OR NODE?
S6     111151   PDA OR PALM OR BLACKBERRY OR VIZOR OR PALMTOP OR HANDHELD -
               OR HAND()HELD OR NEWTON OR PERSONAL()DIGITAL()ASSISTAN? OR NO-
               TEBOOK? OR NODE()PCU OR PALMPILOT OR PALM()(PILOT? OR TOP OR -
               TOPS) OR ORGANIZER? OR INFORMATION()TERMINAL?
S7           9   S1 AND S2 AND S3 AND S4 AND S5
S8           2   S6 AND S3 AND S4 AND S5
S9          11   S7 OR S8
S10          4   S9 NOT PY>2000
S11          3   S10 NOT PD>20000204
S12          3   RD (unique items)
File   8:Ei Compendex(R) 1970-2004/May W1
         (c) 2004 Elsevier Eng.  Info. Inc.
File  35:Dissertation Abs Online 1861-2004/Apr
         (c) 2004 ProQuest Info&Learning
File 202:Info. Sci. & Tech. Abs. 1966-2004/Feb 27
         (c) 2004 EBSCO Publishing
File  65:Inside Conferences 1993-2004/May W2
         (c) 2004 BLDSC all rts. reserv.
File   2:INSPEC 1969-2004/May W1
         (c) 2004 Institution of Electrical Engineers
File 233:Internet & Personal Comp. Abs. 1981-2003/Sep
         (c) 2003 EBSCO Pub.
File  94:JICST-EPlus 1985-2004/Apr W3
         (c)2004 Japan Science and Tech Corp(JST)
File  99:Wilson Appl. Sci & Tech Abs 1983-2004/Apr
         (c) 2004 The HW Wilson Co.
File  95:TEME-Technology & Management 1989-2004/Apr W4
         (c) 2004 FIZ TECHNIK
File 239:Mathsci 1940-2004/Jun
         (c) 2004 American Mathematical Society
```

12/5/1 (Item 1 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

05388192 E.I. No: E2099104841374
Title: Real-time VP bandwidth control for long-range-dependent traffic
Author: Malomsoky, Sz.; Vidacs, A.; Saito, H.
Corporate Source: Technical Univ of Budapest, Budapest, Hung
Source: International Journal of Communication Systems v 12 n 4 1999. p 229-247
Publication Year: 1999
CODEN: IJCYEZ ISSN: 1074-5351
Language: English
Document Type: JA; (Journal Article) Treatment: T; (Theoretical)
Journal Announcement: 9911W4
Abstract: The asymptotics of cell loss ratio (CLR) in the regime of large **buffers** are exponential and can be characterized by two parameters, the asymptotic constant and asymptotic decay rate. This result is very general, provided that the arrival process does not possess long-range dependence. As for the long-range dependent case (or equivalently, when the increment of the traffic process is self-similar), the CLR decreases with the **buffer** size sub-exponentially, and the two parameters are no longer adequate to capture this phenomenon. Recent results from the literature show that for self-similar traffic models the tail of the stationary queue length distribution is Weibullian. Using these results, this paper proposes an algorithm for estimating the CLR in real time based on **buffer** measurements, which works for both the long- **range** - and the **short** - **range** -dependent case. For this purpose, the notion of state-space representation of a single- **server** queue is introduced, and Bayesian regression analysis is applied to estimate the state variable of that system. Our approach does not require any models describing the statistics of the traffic other than the asymptotic behaviour of the CLR. We describe how our method can be applied to VP bandwidth control by using results from simulation experiments. (Author abstract) 29 Refs.
Descriptors: Asynchronous transfer mode; Congestion control (communication); Bandwidth; Telecommunication traffic; **Cellular radio** systems; Asymptotic stability; Mathematical models; Parameter estimation; Queueing networks; Weibull distribution
Identifiers: Bandwidth control; Bayesian estimation; Cell loss ratio (CLR)
Classification Codes:
716.1 (Information & Communication Theory); 716.3 (Radio Systems & Equipment); 921.6 (Numerical Methods); 922.1 (Probability Theory)
716 (Radar, Radio & TV Electronic Equipment); 921 (Applied Mathematics); 922 (Statistical Methods)
71 (ELECTRONICS & COMMUNICATIONS); 92 (ENGINEERING MATHEMATICS)

12/5/2 (Item 1 from file: 233)
DIALOG(R)File 233:Internet & Personal Comp. Abs.

00510113 98PK10-001
Windows CE goes wireless -- New LAN drivers, partnerships are key to Microsoft's handheld **strategy**
Spooner, John G
PC Week , October 5, 1998 , v15 n40 p1, 14, 2 Page(s)
ISSN: 0740-1604
Company Name: Microsoft
Product Name: Microsoft Windows CE
Languages: English
Document Type: Articles, News & Columns
Geographic Location: United States
Reports that Microsoft Corp. is planning to enable its Windows CE platform, including software and hardware that support the OS, to use both **short** - and long- **range** wireless communications to tie into Windows NT 5.0 and such back-end systems as Exchange 6.0 and SQL **Server** 7.0. States

that Microsoft intends to provide very broad support by building wireless support into its applications as well as its operating systems, which will give users access to more types of data, including e-mail, calendars, address books, and information **stored** in databases. Specifies that Microsoft is optimizing its Windows CE TCP/IP stack for wireless communications, and including wireless LAN drivers and utilities developed by Proxim Inc. Notes that the drivers will support Proxim's RangeLAN2 2.4GHz radio-frequency-hopping wireless LAN technology that transmits data at 1.6Mbps. Includes one table.

Descriptors: Wireless Communication; **Hand - held** Computer; Window Software; Local Area Networks; TCP/IP

Identifiers: Microsoft Windows CE; Microsoft

12/5/3 (Item 2 from file: 233)

00286089 92PK08-011

AST enhances servers , **cuts prices across lines**

Boudette, Neal

PC WEEK , August 3, 1992 , v9 n31 p13, 1 Page(s)
ISSN: 0740-1604

Company Name: AST Research; NetFrame Systems; Tricord Systems

Product Name: AST Premium SE; AST Premium Exec; AST Power Premium

Languages: English

Document Type: Articles, News & Columns

Geographic Location: United States

Reports on recent measures adopted by Irvine, CA-based vendor AST Research Inc. in an attempt to keep pace with the current price- cutting frenzy within the PC industry. Presents an overview of the varying degree in which prices among their Power Premium desktop and Premium Exec **notebook** lines were affected. Examines similar price reductions being undertaken in their Premium SE **server** lines, along with improvements in their **storage** capacity, I/O capability and graphics performance, in an attempt to face up against other PC vendors such as Compaq Computer Corp. in the **server** market. Says that AST's **servers** , however, fall **short** in supplying the full **range** of remote diagnostic and administration capabilities as well as fault tolerance and enhanced I/O throughput offered by traditional super- **server** vendors such as NetFrame Systems Inc. and Tricord Systems Inc. Includes a table and photo. (PAM)

Descriptors: Price; Software; Upgrade; Customer Support; Corporate Information; Strategy; Competition

Identifiers: AST Premium SE; AST Premium Exec; AST Power Premium; AST Research; NetFrame Systems; Tricord Systems